THE MEDICAL AND SURGICAL REPORTER.

No. 1911. PHILADELPHIA, OCTOBER 14, 1893. Vol. LXIX—No. 16

ORIGINAL ARTICLES.

BLOOD-LETTING AS A THERAPEUTIC AGENT IN THE TREATMENT OF DISEASES.*

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"*Stat magni nominis umbra.*" "It stands the shadow of a mighty name." There is a great diversity of opinion, and a tendency to reaction in regard to the utility of blood-letting. Some holding it to be unique, single in kind or excellence. To the old physician it is a souvenir of the past.

For nearly half a century I have been a close observer of its effects clinically, and I have always considered it, when judiciously employed, a *semper fidelis*—always faithful in its results, and it should be in the hands of every physician a *semper paratus*—always ready. But for years it has only been known as "the lost art." Why? Because times have changed and we must change with them.

But the great question that confronts us is, must we ignore all the learning and clinical experience of the past; must we say physicians of fifty years ago were all in error; that their knowledge of physiology, pathology and therapeutics was a heterogenious mass of crude notions and absurdity. Were all the eminent surgeons and physicians of the past deficient clinicians. They were eminent clinicians, and laid the foundations of medical science deep and permanent. They all advocated and used the lancet, and yet we of to-day say—"*dulce et decorum est-pro patria mori*"—and it is sweet and glorious that we old practitioners die to the past surrounded by such eminent lights as Hunter, the Coopers, the Bells, Abernethy, Brodie, Travers, Lawrence, Thompson, Eberle, Rush, Parrish, Dewees, and many more too tedious to mention, whose fight with disease and death was as successful as that of modern practice in all the varied departments of morbid action. It has been said that all these men and many more, turned their wards and private rooms into slaughter houses with the lancet, and killed more than they cured. Surgery is to-day just where John and Charles Bell left it fifty years ago, with only the Listerian mode of dressing wounds, and as applied in operations, which is a valuable addition to surgical therapeutics. The ligation of arteries, amputations and trephining are performed now just as they were fifty years ago, so far as the mechanical surgery is concerned, although I am free to admit that abdominal surgery has advanced quite rapidly and successfully.

A few years ago I heard it stated in a medical society, by a reputable physician now dead, that no physician of any note or standing in the profession would have the hardihood to stand up and advocate blood-letting either in the strictly inflammatory or nervous types of disease. Shortly afterward, this same physician was called in consultation in a case of parturient-convulsions and bled the patient freely and saved her life. Meeting him

*Read before the Pike County Medical Society, Ind.

afterward, I said to him, "How comes it, you resorted to venesection in this case, holding the views you do against the remedy?" He remarked, "Well, I looked upon it as the last resort." I remarked, "You should have looked upon it as the first remedy, the *sine qua non*, and everything else as simple adjuvant.

Before I enter clinically into the consideration of blood-letting, I wish to speak briefly of it as a means of diagnosis in some of those obscure cases, where doubt exists as between a neurosis and an inflammation. These cases are usually marked in their pathological significance and therapeutical remedium. When inflammatory blood is drawn, it coagulates more slowly than healthy blood; the clot is harder and smaller, and the quantity of serum is apparently greater. Then inflammatory blood never fails to exhibit the tough yellow fibrinous stratum known as the "buffy coat"—depressed in the center with elevated edges resembling somewhat Hunterian chancre, "cupped" as the old term expressed it. By the abstraction of a small quantity of blood where I have been perplexed and in doubt, I have had all doubt removed in forming a diagnosis as between an inflammation and a neurosis, and have been led into the right path in my therapeutics when I found the above conditions of the blood present. Of course, I discard the "buff" when dependent on strictly physiological laws, as plethora, gestation, active exercise, etc., but my argument has reference strictly to pathological conditions.

We will find the pathological conditions of the blood greater when the fibrous or the serous tissues and parenchyma of organs are the seat of either acute or subacute inflammation; and least, if not entirely wanting, in mucous and tegmentary tissue. To the eye alone, we may find all the local signs of inflammation from a subjective point, such as alteration of color and size, modification of sensation, increase of temperature with modification of the function of the part; I say, it is possible for all these conditions to exist and that without inflammation. I would therefore urge the propriety of small abstractions of blood as of great utility in assisting us in a correct diagnosis in many of these obscure cases.

Dr. Reid says in his work on nervous diseases, "that less slaughter, I am convinced, has been effected by the sword than by the lancet, that minute instrument of mighty mischief." Such an expression coming from an author, shows him to be a very reckless observer and defective clinician.

Let us look facts square in the face, and what is true of one thing may *per se*, be true of another. To-day the anatomy of the human body is just the same as it was fifty years ago. The physiology of the various functions the same. Morbid anatomy the same, and the entire phenomena of inflammation, from hyperemia to gangrene, the same. In therapeutics, fifty years ago, tartar-emetic was a nauseant and emetic; it is so to-day. Calomel was the specific for syphilis, and has kept its reputation untarnished to this hour. Fifty years ago blood-letting was the great antiphlogistic remedium and combater of many of the neuroses. Practitioners of that day were not engaged in cultivating speculative medicine; they were veritable clinicians, close observers of symptoms and treatment. They did not believe in or draw their conclusions from experiments made upon dumb animals, but obtained their knowledge at the bed side of the sick. The speculative and metaphysical medicine of the Germans had not made its appearance; the expectant practice of Todd and Bennett was not born. It is true, that like every other valuable remedy, blood-letting in some hands became a hobby and to a large extent fell into the rut of routine and empiricism, which generated some injudicious use of the remedy. In the hands of such men, any remedy however valuable is liable to abuse and in danger of being carried to extremes. Extremes in medicine, especially in the practical relation to society, are dangerous, while conservatism is usually safe. I am convinced that the great neglect of blood-letting in modern practice is about as pernicious, if not more so, than the lamentable abuse of it in the hands of its friends. Hear what Dr. Tilt, of London, says: "Practitioners of the present day are so hoodwinked by the bug-bear debility, that they fear to ruin a patient's constitution by taking away ten ounces of blood from a patient of average strength at the outset of acute inflammation."

I hold, any average doctor can cure a slight ailment, nature will do the work

if let alone exclusively on the expectant plan, but the highest test of skill is requisite when he comes to confront and grapple with a grave form of disease; those grave forms of *sthenic* inflammation and the profound neuroses that are overwhelming the great nervous centers. No expectant line of treatment is safe here; the edifice is tottering and reeling, and is shaken from center to circumference, and a *shilly-shally*, milk and lemonade practice savoring of homœopathy, will fail in this fearful turmoil. As a clinician you look upon the scene and ask yourself what is to be done. Science answers, subdue the quickened and laborious action of the heart—this excessive vascular or arterial tonus and capillary stasis, and derangement of innervation and nerve centers—down it with the club of Hercules, the lancet. I believe I can say without any bias or prejudice that I have given all the so-called vaso-motor and cardiac depresents in all forms of *sthenic* inflammation, and what I may have accomplished with them I am confident could have been accomplished by blood-letting and with a more speedy return to convalescence.

The modus-operandi of blood-letting is that it procures an effect upon the blood directly and immediately, and upon the system circulating the blood. The obvious effects upon the blood are first, a diminution of the actual quantity circulating in the system. But it don't diminish it in the same proportion in every organ; for the brain is a notable exception. Now the effect this diminution is very transient, the normal quantity is soon restored. But the more important change the pathologist wants is in the quality of the blood, for immediately after venesection the vessels take up watery fluid from all parts of the system (hence valuable in some *sthenic* cases of anasarca) and thus the proportion of water in the blood is increased, and the blood is less stimulating to the heart and arteries. Now in all the process, the quantity of albumin and fibrin is scarcely affected, while on the other hand the corpuscles are diminished in a very notable degree.

The second effect of blood-letting is to diminish the activity of the circulation. Under blood-letting the heart contracts with less power upon its contents, and propels a less quantity of blood into the arteries and capillary system. Here is the important difference between the *modus-operandi* of so-called motor depressents and venesection. Tartar-emetic for instance, slows the action of the heart, by first acting upon its inhibitory nerve, the pneumogastric, whereas, blood-letting slows the heart by first lowering vascular tonus, and acting upon the blood conjointly in relation to its quantity and quality. This gives it the preference over tartar-emetic or any other cardiac depressent.

Summed up, blood-letting physiologically slows the heart, decreases the momentum of blood in the vessels, removes capillary stasis and alters in some respects the constituents of the blood. I know it is claimed by those opposed to blood-letting that all the above can be accomplished by the motor-depressents and cardiac sedatives. Now, if all this can be accomplished by these agents, we must admit that a prolonged circulation and chemical change must take place before these effects are manifested, either for general purposes in the system or for local selection. The so-called antiphlogistic remedies are slow in their action, and frequently behave unseemly, and at the most are uncertain, whereas blood-letting is prompt and certain in its effects and results.

An indiscriminate use of blood-letting is not contended for. Blood-letting to be efficient requires great discrimination in regard to the type of the disease, time, age, idiosyncrasy, sex, quantity and repetition. Ordinarily it is never done too early, but more frequently too late, and this very fact often brings it into ill repute. Our fathers gave us, as they supposed, very important rules for our guidance in the premises; among the more important was that relating to the pulse.

After I had been in practice about fifteen years, acting upon the suggestion of Lænniae, I discarded the pulse as a guide for venesection, and took the fountain head of the circulation for my guide. I am satisfied from long and careful observation that the heart is the best and safe guide for our conduct and for repetition of the measure. As an example, in abdominal inflammation, either traumatic or paturient, if we rely exclusively on the pulse, we should be very liable to withhold

venesection. This deceptive pulse is one of the most difficult to discriminate and point out the course to pursue. An error here may be fatal to our patient. So I reject the pulse in forming my opinion upon the propriety of blood-letting from its unreliable indications. The stethescope offers a much more reliable and safer indication than the pulse or pain. When the contractions of the ventricles are energetic we may bleed without doubt or fear, if the pulse is low and weak they will rise; but if the contractions of the heart are feeble, although the pulse still retains a certain degree of strength, we must be cautious in its employment. When conjointly, the pulse is very strong and bounding and the contractions of the heart moderately strong, we may bleed with advantage as long as there is not a marked diminution in the noise and impulse of the heart's action. But on the other hand, whenever conjointly the pulse and heart are feeble, we must not open a vein, whatever be the name or seat of the disease. I therefore look upon the stethescope as the best indicator, especially if those difficult cases in the domain of practical medicine, where so much is to be gained by a judicious discrimination, as in the thoracic, abdominal and intracranial inflammations. It may be surprising that the practice of feeling and relying upon the pulse has been so generally followed in all ages. The reasons of the practice are, however, sufficiently obvious. It is very easy of performance, and gives little inconvenience either to the patient or physician. The most scientific can derive from it but few indications and conjectures for blood-letting, but the most ignorant charlatan can without exposing himself deduce from it all sorts of indications.

We have no use for the pulse ordinarily now to determine the normal temperature of the body, nor do we hear any more the old term *choler-mordex*. The pulse I opine is of more value in prognosis than it is in diagnosis or in therapeutics. I have thought that the uncertainty of the pulse gives it a preference with persons of inferior qualifications, over means quite certain in their nature, and which enable the non-professional observer to judge of the skill of the physician by the correctness of his diagnosis and prognosis. Then the mere state of the pulse is not the criterion for indicating the precise state of the circulation in general; it does not certainly indicate its condition in the entire heart, as it only corresponds with the contraction of the left ventricle, which may be regular at the time of taking the pulse, when that of the auricles and right ventricle is irregular; then in like manner the pulse fails as a good guide as to the expediency of venesection. The certainty and facility with which the stethescope indicates the propriety of blood-letting appears to me to be one of the great advantages to be derived from the instrument, and if the points set forth are carefully studied and adhered to, the physician will not be very liable to be mislead in the use of the lancet, but will have a correct basis for his opinions and practice.

I have always acted, in treating human maladies, on the principle that it is best to generalize disease, and to individualize the patient, as every one has a constitution of his own. It has been said with much truth that every man has his own urethra and every woman her own uterus.

I wish to quote a late writer on the subject of blood-letting. "Essentials of Medicine," by Professor Hartshorn, he says: "It must be admitted that blood-letting has more opponents and fewer defenders than at any previous period in medical history. Why is this? By reason of 1, Reaction from previously existing abuse of the remedy, but the abuse of a remedy don't destroy its value. 2, A change in average human constitution as contended for by some, occurring under the artificial habits of civilized life. [This Flint rejects.] 3, False construction and misapplication of recent science. 4; Leadership and fashion.

The reaction has proceeded too far, going from one extreme to another. We should not throw aside as useless all the experience of our predecessors, as if every new fact was necessarily the heir of some dead old one. I hold that false construction and misapplication of observed facts in physiology and pathology have been operative. In physiology by the denial or depreciation of the *active* part taken by the arteries in the circulation, and in pathology by the veiws of Professor J.H. Bennett in regard to inflammation, that of *exudation* alone. Now, when the *exudation* has occurred, can any but palliative or expectant measures be applied

to the management of its changes. But the active concentric determination of blood—the arterial excitement—cannot *this* be essentially MODIFIED by treatment? Yes. By abstraction of blood, we lessen (for a time at least) 1, The *fullness* of the *vessels*. 2, The number of *red corpuscles*. 3, The force of the *hearts impulse*. 4, The force of the *arterial impulse*. 5, The excitement of the *nerve centers*. By each and all of these influences, we diminish the vascular excitement connected with an inflammation and thus I repeat *lessen the amount* of resultant *exudation*, and render, as Paget remarks, its "biography" more normal, its changes less degenerative and destructive.

It is therefore altogether an erroneous assumption of Professor Bennett, and others, that inflammation is a "self-limited process which cannot be cut short nor interfered with to advantage." If there be anything positive in medical experience, I believe the contrary of this to have been established.

How, then, do we *define*, or *classify* the *remedial* action of blood-letting. It is *balancive*. What do we mean by *reducing* treatment? The answer to this question is important. *I do not know of a single case of any kind of disease, in which the indication or object of medical treatment is to reduce the strength or lower the vital powers of the patient's system.* What we aim to *reduce* is *disproportionate vascular excitement or congestion:* to restore the BALANCE of the circulation. It is mere *imagination* that the abstraction of a small quantity of blood *must always* lower the patient's strength. Under some circumstances it actually increases it.

Taking these propositions as established, we may draw blood for, high *sthenic* inflammation. 2, Active congestion, threatening inflammation or hemorrhage. 3, General plethora. 4, *Sthenic* spasm in certain conditions of pregnancy and convulsions. In all cases the practitioner should for himself be the judge of the *effect* upon the pulse. It is remarkable how small an amount will sometimes do a great deal of good."

I have presented the views of one eminent in the profession as a teacher, clinician and a safe and successful practicioner, one who having no pet theory to advance, looks facts square in the face and who draws his conclusions from sound physiological principles, pathology, and clinical observation and facts. He very justly discards the fanciful theory of Virchow,—that stimulation, *irritation* and inflammation are *essentially* and practically, as well as causative, only degrees of the same vital impression.

Then, taking the heart in preference to the pulse as the proper guide, holding that there is physiologically a distinction in the arterial circulation, to some extent separate and apart from the cardiac movement, by *reflex vaso-motor* inervation, or perhaps due largely to their own inherent contractibility (for without this I deem the cardiac movement insufficient to send the blood to the remote and fine capillary system), with this physiological view as a basis, we are prepared to use venesection scientifically and with the very best results in congestions, acute inflammations, spasmodic affections, various conditions of gestation and parturition, and in some abnormal conditions of the catamenial function.

In conclusion, strictly adhering to the foregoing principles, I am prepared from a clinical standpoint to advocate blood letting in the following pathological conditions coming under special pathology. And first, in those cases justly denoted *sthenic* inflammations occuring in constitutions not debilitated previously by bad habits or other causes—in this category are included pneumonia, pleuritis, bronchitis acutus—and pericardial inflammations; acute phlogosis of the brain or meninges either idiopathic or traumatic; the abdominal inflammations traumatic or otherwise—and more especially that formidable variety following parturition, viz: metro-puerperal-peritonitis. And right here I am regarded with a holy horror by the disciples of Todd and Bennett, and confronted with the exclamation, "*dare you use the lancet* here." Yes I dare and will. I have nothing to do with Todd and Bennett, I am governed by my own judgement and clinical observation. "Well, don't you know," says the bacteriologist that *bacilli* alone are responsible for the disease, and it is a veritable septicemia, and a line of antiseptic treatment is the only safe course. Very well, if bacteria are capable of setting up a grave and tremendous inflammation, it is nothing but inflammation I must first combat, then

when I have subdued this Mr. Antiseptic, you can come in and finish up, and remove the products. The bug-bear debility, and weak and rapid pulse would not deter me from the use of the lancet, for I have always found a decided improvement in all the vital conditions after a free and early blood letting. To be of any value it must be early.

A few remarks in regards to the utility of blood letting in the true neuroses In that terrible affection, angina-pectoris. I have the best of results in immediately relieving the heart pang. I have also relieved the spasm with nitrite of amyl, but no quicker or more effectually than I did with venesection. In fact blood letting in those nervous affections marked with cerebral and muscular lesions, is an invaluable mechanical antispasmodic. In a large number of morbid conditions coming on during pregnancy, the judicious use of the lancet is valuable. Also in those nervous and circulatory disturbances following an acute suppression of the catamenia, characterized by severe cephalagia, fullness of the blood vessels, pelvic pain with *dyskinesia*, blood-letting puts a quietus to the whole chain of morbid phenomena, and thereby restores normal menstruation. I might lengthen the list, but let these suffice. A few years ago I concluded to experiment with Mackintosh's practice of bleeding in the cold stage of intermittent fever, though I do not advocate the practice. I tied up the arm while the man was shaking like Beltshazer, opened a vein and took about 16 ounces of blood. While the blood was flowing the rigor began to diminish, and was entirely gone by the time his arm was tied up, and a few small doses of medicine completed the case. In my long experience with the diseases of the Mississippi valley, I can say that I never have bled a patient and afterward regretted I had done so, but on the contrary I have had to regret frequent failures to do so; perhaps being influenced too much by the prejudice of the times, and unfortunately falling into the rut of fashionable medicine.

We have a class of nervous affections which are unquestionably produced by a toxic element in the blood, the proper emunctories have failed to eliminate it from the blood either from temporary functional derangement, or from organic disease. These toxic elements act with great force and danger on the nervous centers; on the brain in producing profound coma, and upon the medulla spinalis producing reflex motor excitement manifested in clonic convulsions. We have such pathological examples notably in *uremic toxemia*, acute sthenic epilepsy, scarlatina, and rubiolia; and I have witnessed some acute attacks of hysteria following uterine disturbance from sudden suppression of the catemenia. I am convinced that in menstruation there is a toxic element that should pass away with the flow, for I believe, like the kidneys, liver, intestinal canal and skin the menstrual molimen is also an emunctory for the time being, and is of great value in the female economy in this particular.

Now, in all cases of the above type, I know that phlebotomy is a remedy of great value and depuriates the blood, thereby relieving the nervous centers, and the entire nervous system of its hypermorbid excitement by directly draining away the *materies morbi*. By also increasing for a time the amount of serum in the blood, the proper channels are aroused to increased secretion and soon rids the blood of the virulent enemy of the nervous system.

A few cases in illustration (of typical cases) will complete this paper and establish beyond question the propriety of blood-letting in this class.

A. P., aged 46, had served in the army three years, had no sickness while in the service. Weight about 150 lbs; nervo-bilious temperament. All the history I could get of his case was that for about five days before the attack he complained of constant pain in lumbar region, but continued to work on the farm. October 16, 1866, I was sent for to see him; arrived at his residence at 11 P.M. I found him in a state of profound coma with terrible convulsions; his skin had a urinous smell. I diagnosed the case acute *sthenic uremic toxemia*. I secured the services of two stout men to hold him while I tied his arm, and by the light of a lamp I opened the median basilic vein and drew away about 18 ounces of blood. As soon as the blood began to flow the convulsive movements began to subside. After his arm was tied up, they entirely ceased. Consciousness returned; he took a purgative and diuretics and had a speedy

recovery. What would an hypodermic injection have done for this case?

Mr. E. E., moderate drinker; been anasarcous for about one month; called in consultation with Dr. McMillen, of Washington; patient had convulsions; in a semi-comotose condition; urinous odor from his body; has passed no urine for forty-eight hours, none in the bladder. Purgatives and diuretics have been used with sinapisms to lumbar region. I recommended venesection. Concurred in; drew away about fifteen ounces of blood. Convulsive movements immediately subsided with the comotose condition, and in five hours after bleeding he had a copious discharge of urine and made a good recovery. The above were typical cases of uremic intoxication, and unquestionably were restored by blood-letting. One more case and I am done. Miss Ellen L., aged 18; of fine physique; rather inclined to an irritable temper; mensturation normal. Washed off the porch in cold weather at six P. M. in her naked feet and while 'mensturating. Complete suppression of the flow; spent a restless night. In the morning I was sent for. Found my patient complaining with a severe headache, the pain confined along the sagittal suture, a veritable *clavis-hystericus*. Severe pelvic pains; eyes unsteady, rolling rapidly in their orbits; quivering of the lips, and twitching of the facial muscles; well marked globus-hystericus, hyperasthesia of the skin described as a pricking sensation. In fact my patient was on the very edge of hysterical convulsions; acute *sthenic hysteria*. I called for a bandage and began to bleed her. I shall never forget the horror-stricken features of her mother when she discovered my purpose as she remarked "You ain't agoing to bleed her are you? doctors have quit bleeding." I replied, Yes madam, I am; you see I am one that bleeds when I think there is a necessity for it, and there are a few more left of the same sort. Now look and see how soon I will quiet down all this disturbance by taking away a few ounces of blood. I bled her to the amount of 12 ounces. She immediately became calm; headache and pelvic pains disappeared and she went off into a quiet refreshing sleep. In the afternoon ordered sedleitz powder, and a hot foot bath at night. Next morning on visiting her, found she had rested well; purgative had operated, and she was having a fine flow of the menses. Dismissed.

Her mother had a pleasant, serene smile as she remarked: Well Doctor I now believe if the doctors would bleed more they would not lose so many patients. To which I acquiesed.

Let me have your indulgence while I quote a case from Dr. Fordyce Barker, in his admirable work, *Blood-letting in Obstetric Medicine*, 1871; treating of certain exceptional cases of puerperal mania, he says: In February, 1868, I was sent for to visit a young lady the thirteenth day after her confinement. Her puerperal convalescence had been so free from all unpleasant symptoms that I had ceased to visit her. I found her gloomy and taciturn—a very marked change from her usual temperament—complaining of nothing, and refusing to answer any questions. The nurse informed me that the first symptom, which had occurred a few hours before, was a complaint of pain in one of her breasts, and a refusal to nurse her child, which she had been very fond of doing; one breast was somewhat tumefied and evidently painful; her pulse was somewhat tense and quickened. The axillary temperature was 103°. There had been no chill; on visiting her the next morning I found that she had not slept a moment; that she had not nursed her child; or permitted anything to be done to her breasts; or taken one drop of drink, one mouthful of food or a particle of medicine. She was now beginning to talk wildly and rapidly without noticing any remark that was made to her. During the day I visited her very frequently, and at each visit I found her condition becoming worse. In the night following I found her face highly flushed, her eyes red, and she had become very violent, with an astonishing display of muscular power. She would tear off her clothes, and scream incessantly, with a constant repetition of certain phrases, in such tones, and with a 'damnable iteration' as almost to drive every one crazy who heard her. With great difficulty her husband, her brother, and the nurse held her while I opened a vein in her arm. As the blood flowed at first it scattered generally around the room and on the persons of those of us about her. She gradually became more quiet, and sank

down on the bed, and fell into a sound sleep while I was bandaging the arm. Nearly five hours after she awoke, asked for her baby to put to the breast, and she was perfectly cured. After this she did not have a single symptom of disease, and her convalescence was rapid. We estimated the quantity of blood taken at about fifty ounces, although so much was lost at first that we could not judge very accurately. In no case have I ever seen the effects of medical treatment so promptly and so happily curative."

My experience with parturient mania has been limited, having only encountered three cases in my whole obstetrical experience Two were in multiparæ, and one in a primipara. One multipara was almost sanguine from excessive post-partum hemorrhage. Calmatives, with perfect seclusion restored her to health. The other two were well marked cases of a sthenic type In these I early resorted to phlebotomy with the best of results, making the treatment following, consist principally of a combination of hydrate of chloral and bro-potassium with strict avoidence of all mental excitement and with good nutriment.

THE LIMITATIONS OF THERAPEUTICS IN THE CONTROL OF DISEASE.*

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It is not a great while since I had occasion to prepare and deliver an address, in which I had the pleasure of calling attention to some of the great and valuable advances that have been made in therpeutics as applied to the treatment of medical cases during the past few years. And under the influence of those brilliant discoveries, I found myself indulging in many optimistic anticipations, which, perhaps, were then too sanguinely expressed.

Subsequent reading and research have led me to feel that while there is much for which we can be grateful, and with which we cannot but be delighted, there is still another side of the picture, to which it is not usual to make reference. It is much more popular and agreeable on occasions like this to come before an audience of brother physicians with some new discovery that shall hold out great anticipations of substantial progress in the therapeutical art, by which we may be able to relieve humanity of diseases and of suffering that previously were beyond the reach of medicine. That is what we delight to do, and what is a pleasure to do, and what we all seek to do on occasions like this, and therefore, the other side of the picture is apt to be neglected, but I hold the other side of the picture is as important for the practical physician for practical therapeutics, as is that which presents the more brilliant prospect.

I have chosen for my subject to-day some of those limitations with which so many of us are familiar, and which we must all encounter in our endeavors to deal therapeutically with diseases. I will begin by retracing some of those familiar difficulties with which all practitioners soon become too well acquainted, and will then advance some of the wider applications of my theme. Let us remember, in the first place, what our experience has been, both personally and collectively, with such a familiar drug as mercury, and its preparations and its compounds. You know how invaluable are these compounds. They are indispensable to the practical physician; it is impossible to get along without them. Yet remember what sometimes happens, unfortunate cases of salivation, destruction of the red blood corpuscles, great debility consequent upon the use of the article, the patient sometimes landing in a condition of great misery and suffering in consequence of the use of this most valuable drug. Let us think of that for a moment. It is important for us while we study the useful properties of a drug, to also accurately acquaint ourselves with its deleterious properties, that we may guard against those injurious results that follow the use of such drugs. Again, take arsenic, an old remedy which we have used time and time again, and we cannot dispense with it. It is

* An Address delivered before the Michigan State Medical Society, 1893.

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absolutely indispensable in the armory of the physician, yet remember what effect sometimes follows the use of that remedy. And how a patient who takes iodide of potassium may suffer with coryza, excruciating pains of a neuralgic character involving the territory of the fifth pair of nerves; disordered digestion; impoverishment of the blood; and we could go on with a long train of the ill consequences that follow the use of this most valuable drug. The lesson I would draw from these facts is the importance of becoming acquainted with the deleterious as well as the beneficial effects of an article, so that we may guard ourselves against those accidents that will follow the incautious or untrammeled use of remedies; for if we but acquaint ourselves with both sides of the picture, and know what harm can be effected, as well as what good will be accomplished by the administration of such a drug, we shall not be likely to have an experience of those unfortunate results of the use of the article.

Then, again, take another and familiar remedy with which you are acquainted—salicylic acid and its compounds. Those of you, who have practiced medicine for half a century or more, are familiar with the straits in which the physician was placed when brought in contact with a case of acute rheumatism, every joint, perhaps, in a state of inflammation, pain, swelling, everything that is characteristic of acute inflammation; the patient not capable of being moved, absolutely paralyzed, the approach of his physician or attendant giving rise to paroxysms of agony. You know that was a familiar scene in former times before the introduction of salicylic acid, and what a transformation was wrought in the therapeutics of rheumatism when the effects of those drugs were recognized and made known. And you all remember how, as time went on, we again find out that those drugs, so useful to arrest pain and cause a cessation of inflammatory symptoms, so potent to restore the patient to a condition in which he could use his locomotor apparatus and sleep without resorting to opiates in large doses, you will remember that those also began to manifest in your experience various symptoms, not only gastric irritation, loss of appetite, indigestion and all such consequences of the administration of the drug, but also, alarming symptoms of heart failure, as a consequence of the incautious administration of those potent remedies, rendering it necessary, you see, to study most carefully, the evil that might flow from an incautious or excessive administration of those most valuable remedies.

Another invaluable class of remedies—the bromides. You are familiar with their use in every day practice; how indispensable they have become to the practical physician who deals with nervous disorders, notably with epilepsy; how under the influence of the bromides it is possible to arrest sudden cases of epileptic paroxysms, to postpone the attacks, and to render them less frequent, less formidable, sometimes to effect absolute cure. And yet, remember how with all of us, in our earlier experience, perhaps, more than in our later experience, it was not a common thing to witness a temporary degradation of the intellectual faculties, under their influence. All of which shows how important it is to have fully before the mind, continually and always, the possibilities of evil that may flow from the incautious or excessive use of the most powerful, and consequently the most useful drugs that are known. The same thing may be said also of some of the other therapeutical measures to which we have recourse in the treatment of disease. You know that it is not an uncommon thing to call in the aid of a surgeon for the treatment of certain maladies, notably of epilepsy, and how surgical measures have been employed, and how, in spite of all these methods you have seen relapses occurring. In certain cases of epilepsy treated with drugs, though the paroxysms of the disease may have been suppressed, and the patient apparently cured, or if not absolutely cured, greatly relieved for a long period of time, the patient will sometimes tell you that after all he would prefer not to continue treatment any longer. Not because dissatisfied with your methods of measures, but because he feels so much better when the disease was allowed to run its natural course, and because an explosion or convulsion at certain stated intervals, seems to give absolute relief, showing that the wisest and best therapeutical methods may nevertheless absolutely fail in giving to the patient that degree of comfort and satisfaction which we desire, and which we consider

the mark of successful treatment.

Going a little further, and considering not merely the use of individual drugs, let us consider somewhat the result of what may be called therapeutics on a large scale as applied to communities, and there we shall be struck very forcibly with the evidences of the importance of having reference to the shady side of our methods as well as to the bright and promising features of the measures that we recommended and employ. Take, for example, such a disease as tuberculosis. Now, tuberculosis is recognized as an infectious disease. We know the cause of it, and we know that that cause is an exotic parasite that becomes lodged in the body of the patient, and that the manifestations of the disease are the consequences of the growth and multiplication of that parasite in the body. And we know that this parasite may find its way from the body of one individual to that of another who is healthy, and who may thus be transformed into a diseased patient. Suppositions of this kind have been prevalent for ages in the history of the world. We have, in our own way simply demonstrated what was formerly a suspicion, and what was in the minds of many more than a suspicion.

It is in the treatment of such diseases as this that we may learn something with regard to the importance of having reference to the possibility of doing harm as well as good by the methods that we emyloy. Take, for example, the experience of the Italians during the last century. One hundred years or more ago, tubercular consumption was regarded as a communicable disease. It was dreaded almost like the plague, like leprosy and small-pox, and when a person was infected with tuberculosis, he was driven from society, became an outcast. In the city of Naples, the most stringent laws were enacted for the preservation of the community from the ravages of tuberculosis. If a physician detected a case of pulmonary tuberculosis among his clients, he was obliged at once to communicate the fact to the sanitary officials of the city under pain of banishment from the city for ten years. The unfortunate patient was made an outcast. He was excluded from all possibility of association with his fellowmen. His family consequently were driven out from the society of their fellows and were reduced to destitution and misery. Employment became impossible for such a patient, and when the poor fellow died, the house in which he had deceased was literally eviscerated; the plastering was removed from the walls, the wood-work torn out, and everything built over. And yet what was the result? Tubercular consumption in that city was a more fatal disease than it was elsewhere, and you can see, after a little reflection, why that should have been the case. For when an unfortunate was thus treated and thus deprived of employment, the horrors of starvation overcoming him and his family in addition to the ravages of the disease, a fatal consequence would be much more inevitable than under other circumstances. So that certainly we have, in our public dealings with disease, to consider the possibilities of harm as well as of prospective good in the methods we employ.

In the same way we must keep in mind also the possibilities of harm from the measures we employ on a large scale against infective diseases that are foreign to the country. We have before us the possibility at this moment, of being compelled to fight against the introduction of cholera from the old world. On looking over the country, it is the opinion of those conversant with the matter, that it is important to draw a cordon around our borders, and to subject all incomers from without to a most rigid inspection, for the purpose of keeping out the disease. That may be the better way. But you must always also keep in mind the other side of the picture; that just in proportion to the stringency with which we carry out the quarantine method, and just in proportion to our success with which we are able in this way to bar out a disease like this; just in proportion to our success in that direction will become our reliance on that as a method of protecting ourselves against disease; and experience shows that where nations rely upon quarantine as a means of protecting themselves from disease, other methods are neglected, and filth accumulates in the crowded quarters of the country. Sanitary improvements and hygienic arrangements for the promotion of health are neglected, and everthing falls into an unsanitary condition. So that when teaching quarantine measures for the exclusion of epidemics like cholera, we must see to it that we do not fall into a

fool's paradise of false security that will grow up from reliance upon stringent quarantine.

Let us also consider our own domestic arrangements for the promotion of health in the communities where we live, and let us take careful thought as to the measures which we employ, and see whether there may not be a possibility of doing harm as well as good when undertaking to legislate for the health of the community, and endeavoring by official action to improve the health of any given country, or cities and villages. Here the greatest caution is necessary, for the reason that much of our legislation in this direction is based upon the experience of epidemics—experience that has been gathered during epidemics of fever and of cholera, typhus fever and yellow fever, epidemics of brief duration, during which great efforts are put forth for the arrest of the disease. And out of the experience that has been thus gained grows up a certain amount of precautionary legislation for the promotion of public health. Now, experience that is thus gained under the stress of alarming excitement, and especially experience that is derived from brief epidemics in small communities, in rural localities where but a few families are subjected to the disease, is seldom a safeguard for the exigencies of ordinary life. We ought to be cautious lest in the application of such experience we do harm as well as good.

Take, for example, the experience of certain English cities with regard to the notification of disease. You know that England has probably the most perfect sanitary system of any country in the world. The dense population, the great wealth of those communities is such that they have been enabled to carry out on a larger scale and in a more perfect manner than in any other part of the world, what may be called a series of sanitary experiments for the promotion of public health, and it is to their experience that we may look for the most valuable information on many of these points; so, therefore, let us take what that experience shows with regard to the public notification of disease. You know it is considered one of the panaceas for the arrest of epidemic diseases that there be a health official to whom shall be given immediate information of the occurrence of infectious disease anywhere in his jurisdiction, so that he shall at once know of the presence of cholera, typhus, scarlet fever or any other infectious diseases that may be subjected to sanitary supervision. And then you know that in many communities it is customary for the officials to at once take active measures to prevent the spread of those diseases. Now, we must here be on our guard, for it is just here, when we are dealing with what may be called domestic pestilences, that we are liable to fall into error through blind reliance upon experience that has been acquired under extraordinary circumstances during the prevalence of occasional brief epidemics that quickly disappear and are soon forgotten by the community.

In England this method of notification of the presence of disease in the community has been introduced, but not as an universal measure throughout the whole country. This was a very fortunate thing, because it gave an opportunity for the comparison of methods. In those localities where the practice of notification was introduced, every effort was made to secure an efficient execution of the law; and in this way a great amount of valuable information has been secured. In other sanitary districts, notification of disease was not introduced, and the old order continued. An opportunity was thus afforded for the comparison of results between those districts in which notification was enforced and those in which it had not been introduced. Recently a statistical comparison of this sort was made by the statistician of the general council, one of the high officials of the sanitary department of England. A remarkable surprise was afforded by this investigation—one of the numerous surprises that attend our first and imperfectly enlightened experiments in sanitary administration. It was found that, instead of the great advantage to public health that had been anticipated in the districts where notification had prevailed for a number of years, the decline of infectious diseases in those regions was less marked than it was in districts where the old system of non-notification had continued. The result was a surprise to all who were interested in the subject; and yet it illustrates most perfectly the fault which I have been urging upon you, that there is

a shady side to our therapeutical methods, and that we must study carefully that shady side, for if we cannot always effect positive benefits, we at least should endeavor to avoid doing harm.

If you will reflect for a moment, you will discover the cause of the difference in favor of non-notification: As soon as a case of scarlet fever or measles, or any other infectious disease manifests itself in the household of a workman, mechanic, shopkeeper, or person whose daily labor might be interfered with, or whose means of livelihood might be impaired as a consequence of notification of that disease, every inducement exists for the suppression of information. Consequently a system of concealing infectious diseases grows up, as it does in this country; as it does in every large city; for it is not difficult to conceal the presence of common diseases among a crowded city population. Diseases thus concealed are far more likely to spread than if their existence is frankly confessed.

Another very interesting fact is brought out by the study of the statistical returns of England. We are told that in England—as in other countries—there has been, during the past half century, a decline in the prevalence and the mortality of infectious diseases, and we are told that as a consequence of this decline, there is a prolongation of the average duration of human life. The average duration of human life is greater than it was fifty years ago. That seems like a very gratifying result, but when we come to examine the statistics more closely, we find that this statement is delusive; that there is another side which we must take into consideration, viz., that the apparent increase of life is due to the diminution of mortality from infectious disease among young children. Counting the increased number of years lived by these young children, at first sight it appears as if there had actually been a lengthening of human life in England, but side by side with that gratifying statement comes out another fact. While the infectious diseases have diminished in mortality, other diseases not infectious in character have increased in number and in fatality; and worse still, that whereas formerly many persons lived to a great age, the number of those who reach advanced age is less now than formerly in proportion to the population. In other words, more men and women die in middle life than they did formerly. Now that is a most unfortunate result, and it should lead us to hesitate before considering the reduction of infant mortality as an unmixed good. For what does it mean? It means that in middle life, the husband, the father of the family, the one upon whom a large number are dependent, has fewer chances of living and supporting those who are dependent upon him than formerly, before the introduction of all these modern improvements.

This is the shady side of the picture which must not be ignored. Does the recognition of these facts mean, however, that we are to condemn the measures that have brought about such results? No. We need never become pessimists as a consequence of these revelations, but we should endeavor to study more thoroughly the conditions that control life, that we may be enabled to understand more completely and perfectly how to improve the health of the community as a whole, and how to bring out all the forces that operate in behalf of life and health, instead of merely attacking conspicuous but really insignificant evils. We should study more thoroughly, in connection with our therapeutics, the evils that may be done to individuals by particular methods. We need to study more thoroughly the social conditions which are active when we attempt to control and regulate the movements of disease in a community, in order that we may learn how only not to save the lives of children, but how to give increased strength to the father and mother that they may live past the period when their children are depending upon them, that they may live to see the fruits of their labor, and to enjoy in good old age the means of improving the national welfare.

For Obstinate Vomiting of Pregnancy.—Fluid extract of golden-seal has, according to Fedorow, proved to be an excellent remedy in the treatment of obstinate vomiting of pregnancy, and has been used with excellent success. Fedorow prescribes twenty drops of the fluid extract four times daily.—*Therp. Monatsch.*

COMMUNICATIONS.

VOCAL PHYSIOLOGY AND SYSTEMATIC VOICE TRAINING FOR THE PREVENTION OF DISEASES OF THE LARYNX.*

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The State Medical Society of Pennsylvania in 1883, passed a resolution that there should be annual alternating addresses on the subjects of ophthalmology, otology and laryngology, but for various reasons, laryngology was omitted in 1889, hence the first and last address on this subject was delivered by my esteemed friend, Mr. Charles E. Sajous, of Philadelphia, in this city, seven years ago. In looking over his very able address, I notice he pointed out to you the importance and relationship of laryngology to the general practitioner, as well as some of the advancements in laryngology up to that time. I will endeavor to-day to give you a continuation of the advancements on this subject, but in a somewhat different line of thought, viz: the necessity of systematic physical voice training in our public schools and colleges for the prevention of some of our most prevalent diseases of the larynx. This subject has lately been considerably agitated by some of our most eminent specialists in England, France, Germany, Scotland, Ireland and America, and no doubt will sooner or later result in the systematic teaching of the proper methods of breathing and speaking in our primary schools and the systematic training of the voice in all academies, colleges, and higher institutions of learning. The object of this paper will be at least in a measure attained, if I can arouse sufficient interest in the medical profession in general, that they will give this subject serious consideration, and advocate its principles among parents, and heads of families, who have children attending schools and colleges, for by so doing good results are sure to follow. If the governing and controlling powers of institutions of learning have their attention called to this subject by physicians and scientific men in general, quacks or charlatans can no longer impose upon the credulity of the public by traveling around through the country teaching false methods, etc., when most of them do not even know the first principles of systematic voice training.

Let us take the child in its infancy as an example to begin with; when it first begins to utter audible sounds it trys to imitate its mother, nurse, or teacher, and trys very hard to formulate sounds into intelligible speech. Years are required to teach a child to phonate properly. Parents should, therefore, devote a great deal of their spare time in teaching their children how to formulate sounds into words, and articulate them properly, for by so doing, they assist them in acquiring more easily and quickly that which otherwise they would not acquire except by a great deal of extra hard labor. At the age of four to six years a vast amount of good can be accomplished by the parents previous to sending them to school, in the various breathing exercises and the proper method of pronouncing words, and to correct them for every slang phrase they may utter. When a child is sent to school, it is generally taught the art of writing by the proper coordination of its muscles in using the hand, as well as the proper position of the body while at its studies. If we thus teach them the proper method of using the muscles of the hand and body, why should we not have a teacher of vocal physiology to teach them the proper method of breathing, by chest, nasal and respiratory exercises, opening and closing the mouth, the modulation of the voice, etc., pronouncing words properly while in the act of phonation. This training should begin in the primary schools, and be continued with the proper advancements in the art, as the child advances in its studies, and extended to the time it has completed its collegiate education. There are very few colleges to-day that properly train the vocal powers of their students, and as a result a good orator or elocutionist is seldom found among their graduates; and likewise there are seldom heard on the

*Read before the Pennsylvania State Medical Society, 1893.

pulpit, the platform, the stage, and at the bar, men who as specimens of physical voice training are able to speak for an hour or two and not suffer hoarseness or fatigue of their vocal organs. That is the time they should have full control of the respiratory movements of their lungs, know how to attack words at a proper pitch of the voice, and how to control their vocal cords, etc., without producing fatigue and congestion of the larynx and pharynx, which always follows when not judiciously used. Violently exercising the voice in the wrong register, and in an improper tone of the voice, must eventually produce physical harm or disease to some parts of the larynx.

The physician must first skilfully perform his duty in seeing that the pupil can perform the proper nasal respiratory movements, by examining his nose and naso-pharynx, and removing all adenoid vegetations, and treating any existing hypertrophic rhinitis, or hypertrophy of the tonsils; as well as take notice if there are any existing anatomical malformations which might interfere with the development of proper articulate language. Stammering is most always a result of failure to observe properly, and of improper methods of teaching a child. The naso-pharyngeal diseases just referred to are also occasionally causes. The physician and specialist should first call attention to, and point out all defects in an anatomical physiological and pathological point of view, and if possible correct any existing defects and then place the pupil in the hands of the scientific voice trainer. Pharyngitis is often produced by spasmodic, jerky respiratory movements while in the act of attacking a tone, and by not knowing how to economize the breath that is inhaled, thereby producing false, harsh, and congested tones. Raising the pitch of the voice without raising the voice itself is another frequent cause of congestion of the larynx. The part that should be cultivated is the natural tone of the voice in which a person speaks with the least effort. Lenox Browne says "The lungs are the motors of respiration; the larynx the vibrating organ, and the chest, walls, trachea, pharynx, and naso-pharynx the resonating apparatus." The French actor, Talma, always made a habit of speaking in his ordinary tone of voice behind the scenes to some of his fellow actors previous to appearing on the stage, so that he could maintain the same pitch in his voice. This is an excellent habit for all clergymen and public speakers to form. Pharyngeal and laryngeal diseases would be an exception rather than the rule if this were universally put into practice. Madam Seiler says, "that if the physiology of the voice were better known and acted upon there would be few complaining singers and speakers." There is no doubt that the solid basis of the voice is a systematic and proper method of breathing; establish that first, and then begin the systematic training of articulate speech. Dr. Gordon Holmes describes the benefits of vocal practice as follows: "The general well being of the constitution is promoted by voice practice because the wider chest movements accelerate the circulation of the blood, at the same time that they cause a more ample flow of fresh air in and out of the lungs. The obstacle of expiration offered by the contraction of the glottis during phonation confers a greater penetrating power on the pulmonary air, which perforce permeats the minute bronchi, and distends the air vesicles of the lungs more effectively; thus the blood attains a higher oxygenation and greater purity, by which qualities it gains in power of stimulating the vital activities of the various tissues of the body as it courses through them. Effete matters are freely cast off, and new and wholesome material is assimilated in increased amount. The appetite, so to speak, of the various, corporeal structures become more keen, and they are thus subjected to an exalted nutrition. And, moreover, these effects have a certain permanency on account of the gains to the thoracic capacity, derived from the habitual increase of lung expansion necessitated by constant vocal exercise." Chest and laryngeal exercises in a systematic way accomplish some of the same results that are derived from a visit to the higher altitudes, such as Texas, Mexico, Southern California, Colorado, etc.

The question is frequently asked at what age should a child begin to sing, or have its voice trained. Opinions differ materially on this question. Patti was taught systematically by her half brother, Barilli, and first appeared in concert singing at the age of seven years. She sang in concert with trained singers.

Neilson was sent to Wartel when quite young. Jenny Lind was trained for the stage at nine years of age, and (it is supposed) from forcing her voice, lost it at the age of twelve years, but regained it at the age of sixteen. Others who lost their voices in a similar manner, suffered from a paralysis of the arytenoid muscles of the larynx, or vocal ligaments. Manuel Garcia was her trainer after her recovery and the "Swedish Nightingale" soon became one of the world's most renowned singers. Listen to the child as it trys to sing one of its nursery songs; notice the tone and pitch of its voice, and you will soon be able to judge the voice compass; carefully watch it and see that this compass is not exceeded by willful exertions on the part of the child. If it is, stop it at once; if not, allow it to go on by your assistance as much as possible, always being careful that it wearies not in well doing.

You will notice from these remarks that there is no set time for a child to begin to sing, or have its voice trained. That question should be left for your teacher in vocal physiology, or voice trainer to decide.

Another mooted question is, whether a child should sing in a concert or not. Wartel says "if a child is possessed of a not worth training let it sing in a voice concert." By analyzing carefully the opinions of a great many voice trainers we arrive at this conclusion: If a child has an exceptionally fine voice, which by special training would develop into an artistic one, never let it sing in concert until after it has been systematically trained and well developed in all the registers; it can not well go wrong after that. To preserve the sweet and natural tones of the child, to fit it for the stage, the platform, or the bar, it must be carefully and physically well trained when young, and it will then develop into a sweet toned singer, or an eloquent and brilliant orator, and you will thus save many a child from some pharyngeal or laryngeal disease, which it otherwise might have acquired by first singing in concert, previous to having any physical training. Many "might have been" famous singers are never heard, principally on this account.

If you thus carefully develop the delicate muscles of the larynx under the guidance of a scientific trainer, as the athlete trains the muscles of his body previous to entering the race, you not only assist in developing a nation who talk well and sing sweetly, but you assist in saving thousands of people from a premature grave to which they are otherwise inevitably doomed. Vocal physiology and systematic voice training are just as necessary as physical training is as a part of the athlete's daily work.

I do not pretend to say that all who follow these suggestions will never suffer from a cold, a sore throat, or an acute attack of largyngitis or pharyngitis at some time or another, but the probabilities are that fifty per cent of the people who are obliged to consult the laryngologist now, would not be obliged to do so were these suggestions rigidly enforced and observed. The most frequent and common ailments of the voice user from which one may suffer at some time or another are the following—catching cold, sore throat, or relaxed throat, acute and chronic pharyngitis, chronic granular pharyngitis, elongated or relaxed uvula, tonsilitis, and acute and chronic largyngitis.

Having considered the physical necessity of vocal physiology and voice training, some remarks upon the daily life of the voice user, in order to assist in the prevention of laryngeal diseases, are quite applicable before closing this paper.

Most of our eminent authors say that a man's life is controlled 1st, by residence; 2d, by ablutions; 3d, by clothing; 4th, by diet; 5th, by exercise; 6th, by amusements; and lastly by individual habits.

First. Residence. It is very important that a man or woman who wishes to preserve a good voice, should live in well ventilated rooms. They should not sleep in the same rooms they occupy during the day. They should be ventilated by day as well as by night. Drainage should be perfect so as to prevent any exhalations from being inhaled, for their injurious effects are soon noticed upon a sensitive and congested larynx. Your residence should be situated rather high and have a southern exposure if possible. As regards climate, some require a dry and high altitude, while others feel best in a moist climate and low altitude. Some can live in smoky and dusty cities, while others must live elsewhere. This should be

determined by the advice of your family physician and laryngologist.

Second. Ablutions. This is a subject much debated upon and yet no strict rules have been laid down. The following are among the best. Daily baths are generally advised. In cold weather take a hot bath, rub the body freely with a flesh brush and plenty of soap (a coal tar preparation is the best for cleansing the pores and promoting action of the skin); then sponge the body or dauche it with cold water while standing in the hot, and dry the major part of the body before taking the feet out of the warm water. If there is any fear of perspiration you should lie between sheets for ten or fifteen minutes before dressing. The Turkish bath to the singer has this advantage; the inspiration of hot dry air which is so advantageous in counteracting the effects of cold, damp climates. It should be taken at least two hours after any meal. Put a wet towel on your head on entering the bath, to prevent heat stroke, palpitation, fainting, etc. Have the body shampooed lightly, and if perspiration is not active drink a glass of water. Wash the head as well as the body. Do not take a cold bath immediately afterward, but douche first with water and have it gradually grow colder. Cool before dressing and keep the body and feet wrapped while cooling. Don't take a Turkish bath oftener than twice a week in winter, and once a week in summer. Cleansing the mouth and teeth with cold water before singing and speaking should be practiced regularly. Bathing the throat and back of the neck with cold water is commendable, as it renders the skin less sensitive to cold draughts of air and prevents one from catching cold easily.

Third. Clothing. A great deal might be said upon so very important a subject, but I will merely touch upon some of the most essential points. As it is customary when going out to put on a wrap of some kind, in the same manner when entering a room be careful to remove it. Try to keep the temeprature of your body equalized, no matter where you are or where you go. If upon the stage, and rather lightly dressed, be sure to use your wraps while waiting in the dressing room between the acts.

The majority of singers and speakers should use silk or flannel underwear the the entire year, especially if they are inclined to suffer from rheumatism. Others think that underwear woven in combination suits, extending from the neck, to the wrists and ankles, made of silk, gauze, merino, or lamb's wool is the best hygienic underwear that can be worn. It is especially advisable to protect the organs of secretion where damp and sudden climatic changes predominate. Regarding the covering of the neck, no singer should wear a collar that buttons above the level of the top of the sternum. The high collar of the dude, the high and tight collars frequently worn by ladies, are a great hindrance to singers and public speakers; their tendency is to constrict the throat and prevent free movement of the laryngeal muscles, and produce conjestion of the larynx and vocal cords, tonsilitis, etc., and materially interfere with all the movements of respiration.

Fourth. Diet. The two chief varieties of food necessary to maintain life, are the nitrogenous and non-nitrogenous. The former is principally found in the meats, and the latter principally in vegetables, starches, sugars, etc. Many vegetables and fruits contain nitrogen, such as apples, peas, white beans, etc., and for this reason vegetarians say we need eat no meats when all the nitrogen we need can be obtained from vegetables. Singers or speakers who do not take much exercise should eat meat sparingly, so as to prevent obesity. A singer should have an interval of about three to four hours and a speaker two hours between a full meal and the time they wish to sing or speak. Some singers or speakers become quite fatigued and tired out by the time they are half through with their evening's exercises; in such cases some beef tea or meat extracts between acts should be taken if possible; or what is still better, a raw egg seasoned with a few grains of salt and a few drops of vinegar swallowed whole fifteen or twenty minutes before using the voice, is an excellent tonic. This is exceedingly pleasant when the voice becomes dry from nervousness. Stimulants such as champagne, whiskey, brandy and the malt liquors should be used very sparingly, for the reaction that follows their use is generally of such a character as to produce a congestion of the vascular supply of the pharynx, and more harm results from their use than the good that is accom-

plished. "Mariani" wine, made from the cocoa leaf, has many vabuable testimonials from eminent actors and singers, but it also should be used with extreme caution, for we all know its active and exhilarating principle is due to cocaine, and who wants to become its slave. Avoid all foods that favor flatulence and have a tendency to interfere with the respiratory movements. All nuts and condiments, peppers, pickles, curries, etc., which have a tendency to stimulate the vascular supply of the pharynx and larynx. At meals tea, coffee and cocoa, should be drunk according to the taste and digestion of the person using it. As a rule they should be discarded. Numerous carbonated effervescing waters when pure are good. Kumyss is a very refreshing and stimulating drink. The light wines, such as Claret, Burgundy, and light Hungarian wines, after a hard day's work are refreshing and recuperative, but total abstinence from alcoholic stimulants of any kind is the best advice I can give you.

Fifth. Exercise. Speakers and singers should not neglect their walk in the open air for an hour or two every day. The exercise is frequently neglected for fear of catching cold, but by observing their manner of dress, exercising moderately, and not violently; is an essential which should never be forgotten. A want of sufficient daily exercise soon tends toward corpulency, and congestion of the various organs of the body is liable to be the result, and interfere materially with the movements of respiration.

Sixth. Amusements. Swimming, shooting, skating, lawn tennis, fencing, etc., if practiced with moderation are all advantageous. Limit the extent of all amusements to the moment that fatigue begins; if extended to the stage of exhaustion, evil results often follow.

Habits. Cigarette smoking is a pernicious habit, especially to singers and speakers. Tobacco in all its forms should be abstained from, principally on account of the inhalation of its fumes into the lungs, and its deleterious effects upon the heart, respiratory movements, and upon the pharyngeal and laryngeal mucous membrane in general.

Each of the main points of my subject might be dwelt upon far more extensively but having touched upon the more prominent ones, I hope that some lasting and favorable impression has been made upon your minds, and that you all may in some manner do your part toward establishing a department for physical voice culture in our public schools and colleges, and by so doing, save many thousands of human lives from a premature grave, by the prevention of many of our most common laryngeal diseases.

BRIGHT'S DISEASE.*

JOHN M. BATTEN, M. D., Pittsburg.

J. McK., aged 40. A moulder. While putting up an iron fence, November 16, 1885, sat on cold, damp ground, the following evening was taken with chills, fever and backache. In a few days afterward I was called in and found him with general anasarca and urine almost suppressed. Upon examination of the urine I found it highly albuminous and his bowels constipated. I ordered him to take a very hot bath, wet cups to back and compound jalap powder in thirty grain doses three times a day. With this treatment continued to suit the varied conditions of the case, the patient recovered in about two weeks.

F. S,, aged 6 years. A male. In June, 1886, suffered with an intractable albuminuria and hematuria, following a mild attack of scarlet fever, which came near ending my little patient's life. The anasarca had extended all over the body, so that he looked more like an alabaster statue than a human being. This condition had developed notwithstanding I had about exhausted all remedies, internal and external, within my therapeutic knowledge, till I had lost all hope of my little patient's recovery. In this dilemma I put my patient on small doses of muriate of pilocarpine, gr. $\frac{1}{12}$, three times a day, when the anasarca and hematuria soon began rapidly to subside and my little patient recovered.

*Read before Penna. State Medical Society, 1893.

R. S. E. A painter, a male, aged 21. Came into my office, on Sunday, January 10, 1891, complaining of dizziness and imperfection in vision accompanied with great pain in the back, loss of appetite, and bowels constipated. He stated that he had been at an oculist's in the month of May last, and that the oculist had ordered him to wear glasses. On this examination I could not make a satisfactory diagnosis. I ordered him home and to bed and to take a dose of compound jalap powder. On the following day I examined his urine which revealed albumin in it. I prescribed iodide of potash, a number of wet cups to back, and milk diet. On January 19, 1891, the highly albuminous urine became very bloody with great pain in the region of the right kidney, so great was the pain that I suspected a calculus in this kidney—I ordered wet cups applied over loins, and ergot combined with the iodide of potash. On February 7, 1891, the blood and albumin in the urine disappeared, sight became normal and patient recovered.

This patient no doubt had had albuminuria since May, when he was fitted for glasses. He gave no cause other than his business for his sickness.

In albuminuria with anasarca following scarlet fever I have found the following medication successful in many cases.

℞ Submuriat Hydrargri..... gr. iv
Pulv. Jalapæ..... gr. vj
Antimonii et Potassii Tartras..... gr. ½

M. ft. pulv. in chart. dividenda j. Sig.—To be given to a child five years old. After the bowels have been moved freely put the patient on

℞ Potassii Nitratis..... ℥j
Tinct. Digitalis..... f. ℥ss
Aquæ..... f. ℥vj

M. Sig.—A tablespoonful carefully given every 6 hours The frequency and size of the dose may vary according to age and condition of the patient. A hot bath may be given daily to encourage diaphoresis. The patient should be kept in bed.

M. B. A boy, 5 years old. Anasarca, convulsions and albuminuria following scarlet fever, patient very sick—I followed the above line ofmedication and my patient recovered.

I have found that the tincture of the chloride of iron given in suitable doses together with fresh sweet cider *ad libitum* in the convalescence of scarlet fever to be very useful remedies in preventing albuminuria. Patients should not leave the bed too soon after an attack of scarlet fever.

On Friday, October 24, 1890, R. S., aged 11 years, female, came into my office with the assistance of her mother, after having convalesced from a severe attack of typhoid fever. Her gait was shuffling, with right shoulder depressed, she complained of backache, colicky pains in bowels, loss of appetite, and inability to walk erect. I ordered her home to bed, dry cups to back and hot poultices to bowels. The following day I found albumin in her urine. I ordered her nitro-glycerin internally, milk diet, dry cups repeated to the back and hot poultices continued to the bowels. Under this treatment she did not improve. November 1, 1890, I substituted iodide of potash in five grain doses for the nitro-glycerin and November 21, 1890, the urine became normal, the shoulder resumed its wonted position, the shuffling and uncertain gait disappeared, the appetite improved and patient recovered.

The cause of this girl's sickness was obscure because of the difficulty of determining as to whether the disease of the kidneys might not have been secondary to a disease of the spine which I first suspected. I finally concluded and correctly too, that the drooping right shoulder and shuffling gait were secondary to the disease of the kidneys.

In 1872 I examined and prescribed for a case of chronic albuminuria and anasarca in a man aged 50 years, addicted to alcoholism. I remember that my prognosis at first of the case was not very encouraging, but to my utter surprise and entire satisfaction the patient recovered. My treatment at first was compound jalap powder, in suitable doses two or three times a day, till the anasarca was relieved, when I put him on ten grains of iodide of potash three times a day till he recovered. The rapidity with which he recovered under a specific treatment would point to a syphilitic taint which I have no doubt he had.

On Friday, March 24, 1893, I was called to see P. D., aged 37. A saloon keeper—intemperate—occasionally got intoxicated and would remain so for a week—high liver. When I saw him he had been sick for about a month under the care of a doctor, but continued to get worse till the urine was almost suppressed and highly albuminous—and there were anemia, ascites, general anasarca of the body, constipation, orthopnea great tension of heart's action, and cough. I ordered the patient to take a hot bath, go to bed and

then commence to take thirty grains of compound jalap powder every eight hours. I continued the hot baths once every day and compound jalap powder as directed for about a week till ascites and anasarca disappeared.

Then I put the patient on a tablespoonful of Basham's mixture of iron with five drops of tincture of digitalis every eight hours, one drop of nitro-glycerin in nine drops of absolute rectified spirits of wine every eight hours, alternating with the Basham's mixture, and also dry cups to back three times a week. The bowels to be kept open once or twice a day, with the compound jalap powder, and the patient to be kept on milk diet. The albumin not diminishing in his urine as rapidly as I had hoped it would do, and suspecting my patient might have had syphilis, although he positively denied ever having had that disease, on April 17, in addition to the other treatment I put him on ten grains of iodide of potash every eight hours, which iodinized him. After my patient had suffered with intense headache, swollen face, and eyelids, scanty urine, and hoarseness for three days, and after he had taken a drachm and a half of iodide of potash, I suspended all medication for twenty-four hours and wet cupped my patient over the loins. At the end of this period I resumed the Basham's mixture, tincture of digitalis and nitro-glycerin. The urine commenced to flow and my patient became more comfortable.

Sunday, April 23. The urine for the first time since I saw patient is free of albumin and he passes about three pints of that fluid daily, his appetite is good, tongue clean, and says he feels well. The specific gravity of the urine is 1,000—the bowels move once or twice a day by taking a wine glass full of Vichy water three times a day.

The following day the patient was up and about the room and passed three pints of urine with ten (10) per cent of albumin in it. He continued to be up and about his room and to pass the same amount of urine daily but the albumin in it ranged at different times from ten (10) to twenty (20) per cent. till Friday, May 12, 1893, when the urine became clear, straw colored, and free of albumin. Specific gravity 1,010. The same treatment has been continued. I think now my patient has fully recovered and he will be allowed to go out during favorable weather. The same diet will be continued for some time.

I wish to emphasize what appears to me to be a fact, that is that there are certain pathological conditions or structural changes in chronic albuminuria which should not be overlooked in making a prognosis of the case. It is a well known fact that a part of one kidney or a part of both kidneys may be diseased, whilst the healthy parts of one or both kidneys may perform the necessary functions of those organs. Again only one kidney may be affected whilst the healthy kidney will perform the functions necessary for both. In the examination of the urine of such cases albumin and casts may be presented and the physician learning these facts by testing the urine will be apt to give an unfavorable prognosis. In the case where only parts of one kidney or part of both kidneys are diseased, the prognosis would be favorable according to the extent of the kidney or kidneys involved.

We should carefully inform ourselves as to what may have been the cause of the kidney disease. Whether acquired or hereditary? If acquired, the causes of the disease should be searched after and if possible eliminated. If sedentary in his habits he should take more exercise. If intemperate in alcoholic beverages he should abstain from drinking them. If he is syphilitic specific treatment should be inaugurated. When the cause is hereditary there are many irregularities in the constitution that are worthy of study and thought, and there are many conditions arising in the course of the disease that may be ameliorated by hygiene, diet, climate and drugs.

Nitrate of amyl and nitro-glycerin relax and dilate the whole arterial and capillary system. Iodide of potash makes the heart's action more regular. Digitalis increases the force of the heart's action, but at the same time contracts the arterioles. Aconite and veratrum viride make the heart's action slower and more feeble. Convallaria makes the heart's action slower and stronger. Hydrate of chloral dilates the arterioles. The volume of blood can be diminished by blood-letting, and by eliminating the plasma of the blood indirectly by sweating, purging and diuresis. Now, no doubt, we can give relief to a patient suffering with Bright's disease by judiciously prescribing the above remedies suitable to the varied

conditions which may arise in the course of the disease.

If upon examination of the urine we find albumin, we may give nitro-glycerin. If there has been a previous history of syphilis, iodide of potash should be prescribed in large doses three times a day well diluted in water, or mercury may be given in small repeated doses, or the iodide of potash and mercury may be conbined. If the bowels are constipated, we may give the compound jalap powder in suitable doses to keep them sufficiently open and soluble to accomplish what may be indicated in the case. If ascites or anasarea has made its appearance accompanied with pain in the back, we should put our patient to bed, apply wet cups to back, order a hot bath to be taken every day by the patient and give nitro-glycerin, iodide of potash or compound jalap powder as may be indicated by the condition of the patient.

If there are indigestion and nausea of the stomach we should direct our remedies to that organ by giving vegetable bitters, diluted muriatic acid, diluted sulphuric acid or alkalies.

If there is irregularity in the heart's action, we should direct our remedies to that organ, if irregular, iodide of potash with small doses of opium. If the heart's action is increased and strong, aconite or veratrum viride may be given. If weak, digitalis. If the volume of the blood is too great, we should give cathartics, diuretics and diaphoretics. In the earlier stages of dyspnea, iodide of potash in five grain doses combined with small doses of opium may effect a relief. In severe attacks of dyspnea dry cups to the chest and the inhalation of oxygen may be beneficial. In the worst cases of dyspnea it may be justifiable to keep the patient under the influence of an anesthetic. If there are convulsions opium may be resorted to; the old doctrine that opium is a very dangerous remedy in Bright's disease of the kidneys is true, yet it is equally true that it is a very useful remedy. If the patient is anemic we should give large doses of tincture of the chloride of iron and oxygen. In certain conditions one of the natural mineral waters such, as Carlsbad water, may be given.

In the later development of the disease we have restlessness, sleeplessness, headache, twitching of the muscles of the face, nausea, vomiting, delirium, convulsions and coma. To relieve these varied conditions we may resort to opium, hydrate of chloral, nitrate of amyl, convallaria, digitalis, caffein, blood-letting, sweating and cathartics.

The diet in the management of a case of Bright's disease of the kidneys is a very important feature. It would seem that nitrogenous ingesta in great part undergo metamorphoses and yielding their nitrogen to be carried off in combination with a portion of other elements under the form of urinary products of a non-nitrogenous diet or one approximating it, in the proper food in this disease notwithstanding Dr. Ephraim Cutter claims that he has seen a full fledged case of Bright's disease of the kidneys restored to health by absolute beef diet in six or more months.

Rumination in Man and its Relation to the Act of Vomiting.*

Dr. Singer, Vienna, says: The observations upon four ruminants resulted in the following conclusions:

Rumination is the expression of a nervous constitution. The further cause of the act is a relative insufficiency of the cardiac orifice of the stomach, which often opens at a time when a certain amount is contained in the organ. The mechanism of the act consists in aspiration of the contents of the stomach, in the presence of a relaxed cardia and a decrease of air in the thorax, which is produced by the act of inspiration, filling the thorax and at the same time closing the glottis; rumination can be repressed by expiration.

Physiologically and clinically this should be regarded as separate and distinct from the ordinary act of vomiting. The gastric function is inconstant and only of passing importance; the anomalous secretions of the stomach are due to neurotic conditions and require, therapeutically, only symptomatic treatment, while the *cause* of the neurosis is receiving the proper attention.

INTERESTING.—Mrs. Peachblow.—"Who is that dreadful man my daughter is talking to?"

Mrs. Seteway (angrily).—"Why, that is my son!"

Mrs. Peachblow (in confusion).—"Oh, I beg a thousand pardons. I thought it was your husband."—*Truth.*

* Abstracted for THE MEDICAL AND SURGICAL REPORTER by Marie B. Werner.

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

ADDRESS
Care P. O. Box 843, Philadelphia.

HAROLD H. KYNETT, A. M., M. D.,
Editor.

RODERIC C. PENFIELD,
Publisher.

316-18-20 North Broad Street,
PHILADELPHIA.

TERMS:—Five Dollars a year, strictly in advance, unless otherwise specifically agreed upon. Sent three months on trial for $1.00.

REMITTANCES should be made payable only to the Publisher, and when in sums of Five Dollars or less, should be made by Postal Note, Money Order or Registered Letter.

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SATURDAY, OCTOBER 14, 1893.

EDITORIAL.

THE USE AND ABUSE OF PUBLIC AND PRIVATE CHARITIES.

No one of our great sisterhood of States has a prouder record for its charities, state and private, than has Pennsylvania. Everywhere are those enterprises of private and public benevolence which reflect the broad humanity of her citizenship. Such is the culture, the humane impulses, the local and state pride of her best citizens, that if asked "What constitutes the chief glory of your commonwealth?" they would pass by architectural monuments, the great hives of industry, the institutions that hold the hard earned treasure of struggling busy thousands and would point to the educational and benevolent institutions—those training minds to build the destinies of states, and those relieving suffering, supplying the needy and ministering to the wants of the unfortunate—which proclaim the conscience and heart of her communities and Commonwealth.

In these public and private charities the people have a profound interest and pride. We would neither directly nor by implication charge the management of the affairs of charitable or educational institutions—those enjoying the bounty of the State or the benevolence of private individuals, as tainted with any suspicion of dishonesty. We prefer to discern the good rather than the evil. Fortunately the management of these institutions is, as a rule, put or taken into the hands of men of high character, men whose social standing, public spirit and known integrity are strong guarantees of the faithful and honest discharge of duty.

Yet in connection with this management, economic and other, there are questions deserving of thoughtful consideration. The weaknesses and selfishness of human nature are to be taken into account, for those directing the affairs of these institutions are human—very human. The institutions are for a common benefit—they are of the people, and in them is the people's treasure, given with gladness, but with the desire for its security, its wise and unselfish use. To divert a penny

from its legitimate or intended channel is a moral crime.

Over few of the very many institutions to which the State extends its liberal gifts from the treasure of the people, is there any state censorship. There is no auditing of accounts, no public statement by which the people are informed as to what purpose their money has been applied. The men, usually a small coterie, administering the affairs of these institutions hold a fiduciary relation to the State and community. Yet they are in no manner required to render an account to the State or to any other authority. As these institutions grow in size, needs and demands, the question will grow to be one of some importance, and should now be one of sober consideration as to whether there should not be some supervision over and above the local management; an authority to inquire into the wisdom, economy and methods of administration; an authority through which the people could be informed as to what was done with the money they had generously contributed from their earnings—whether it was all put in "brick and mortar," expended in pensioning a derelict of some old family, or devoted to the specific educational or humane purpose for which it was intended. Only those whose conduct is open to suspicion would object to having their work pass under the severest scrutiny. The authorities and the institutions themselves would gain prestige by presenting to the people of a clean bill of particulars. The life, prosperity and extent of usefulness of all institutions lie in the confidence of the people—it is the basis of their support.

It would be difficult to reason down the suspicion that much of both public and private charity is turned to selfish private advantage. No hard labor, mental or physical, is in greater demand, none is more keenly scrutinized and unsparingly criticised, none deserves higher reward and none receives less renumeration than the labor of the honorable practicing physician. Unfortunately in daily life honor and honesty are terms of relative value, and there is a very strong temptation for a doctor to apply to "professional services" what spare cash a patient may have, and then to lodge and board the patient while under treatment, at some institution sustained by public or private charity. Known instances of such practice have done much to discourage in benevolent work some of the most charitable men of the community. No charity, public or private, can live and meet the ends of its organization when its blood is sucked and its means turned from the appointed use.

In all great cities there are institutions built by generous individual charities. After a generation, sometimes not so long, the inspiration of the founder passes out of the policy of the management and the world is impressed with the idea that the managers are the owners, and that the institution represents their personal benevolence, and too often, there is very hearty feeding upon the treasure by some officials—always, in sooth, charged up to "service rendered," "service as Secretary and Treasurer," "supplies," "repairs," etc. These institutions are the legacies of the public; the people have a title and interest in them, for they are trusts in the use and abuse of which concern the community. It would be wise to keep the public informed of the methods and details in administering these trusts. Whatever inconvenience it might occasion the managers, it would teach the people the difference between genuine and "professional" philanthropy, would show the relations between the giver, the "sieve" and the receiver, and, perhaps, enable the discovery of some "value received" for "services rendered" and charged for.

We have many noble charities under

church management, a management generally broad in its humanities, wise and economical. All the details of such management pass under an examination as scrupulous as that of the affairs of banking institutions. The strong light of honest investigation honors fidelity and intelligence of good management.

Of a truth, "charity suffereth long and is kind."

TRANSLATIONS.

CONTRIBUTIONS TO THE STUDY OF EXOPHTHALMIC GOITRE.*

Prof. Müller, Marbourg, the author, gives a description of five cases which he was enabled to study carefully; four of these were acute and one chronic in their course. Of the four acute cases he was enabled to study three post mortem; in two the brain, spinal cord and sympathetic ganglia were carefully examined; the fifth or chronic case, which ended fatally, after a time, was also examined post mortem.

The vagus nerve received careful attention. Three cases studied under the microscope proved the sympathetic intact; the vagus showed in one place a marked degeneration. In all cases changes, such as scattered hemorrhages, were found in the medulla and the rhomboid fossa of the fourth ventricle; these were particularly numerous in the region of the nucleus of the vagus nerve. The author, however, places but little stress upon these changes.

The clinical picture differed but slightly between the acute and chronic cases. The symptoms of this form of disease have been frequently described in various books, which are also given in these cases by the author, to which he adds, however, a number of other symptoms. Abnormal sense of heat, profuse sweats, some slight and passing temperature changes, tremor of the hands, rapid emaciation with great weakness, while there appeared upon the skin abnormal pigmentation, change of voice, vomiting and diarrhœa; the last two, occasional symptoms. The patient suffered from a constant restlessness and excitement

In studying all these symptoms the author concludes that the cause of this disease is not found in one or other portion of the nervous system, but that the brain is undoubtedly also a centre of the affection.

Müller concludes that, without doubt, the etiology of this disease can be sought for as a result of fright or deep distress. In case I. the symptoms followed immediately after a severe fright and ended in the most acute form. In case V. the attack was preceded by deep distress and care, the patient having been made homeless owing to an illegitimate new born infant. One can scarcely understand that the psychical influences should have such a direct action upon the thyroid gland, and the only explanation is that the production of this disease is governed by two factors; first, the anomalous function of the thyroid gland; second, a hereditary neuropathic tendency, or that produced by shock or distress. It is quite probable that neither of these two factors alone would produce the disease,—only when they have combined can this occur. The author is extremely anxious to hear the experiences of others, principally that of surgeons.

*Abstracted from *Deutches Archiv. fur Klinische Med.* Bd. 51, hft. 4 and 5, and Translated for THE MEDICAL AND SURGICAL REPORTER by Marie B. Werner, M. D.

Etiology of Acute Articular Rheumatism.*

Prof. Sahli, Berne, begins this article by stating that acute articular rheumatism is probably an infectious disease, and mentions Huter as the first who called attention to this fact, presenting some points for this statement. He calls attention to the acute rise in temperature, which is usually an attribute

to infectious diseases, and also to the local affection of the joints, in which the resemblance to septic or pyæmic joint affections make the differential diagnosis most difficult. In addition to this he considers the relations between articular rheumatism with endocarditis and the affections of serous membranes, often present, a resemblance to pyæmia. The resemblance becomes still more complete in comparing the case bacteriologically. The granulations on the endocardium, so often present in acute articular rheumatism as well as in pyæmic endocarditis, will show the presence of similar micrōorganisms.

In addition to this the author reports a case of typical acute articular rheumatism which was complicated by endo- and pericarditis and pleuritic exudations. The history of the case, fully given, reports the result of a careful pathological examination, which showed the presence of staphylococcus pyogenes citreus in the blood of the left heart, in the swollen bronchial glands and in the various exudations of the pericardial and pleuritic cavities.

The author concludes his remarks by stating that the bacteriological investigation of the reported case, proves that the so-called complications of articular rheumatism (endocarditis, pericarditis and pleuritis) belong etiologically to the disease in question and therefore cannot be regarded as complications but, as localizatiǒns; and further states that in a number of other cases of acute articular rheumatism a study of the blood and the secretions of the diseased joints proved the presence of staphylococci.

*FATTY DEGENERATION OF THE HEART.

The author, Dr. Krehl, Jena, has given much time in studying the various degrees of fatty degeneration of the heart muscle. The only method which gives satisfactory results regarding this question, is the chemical. In order to study this carefully Dr. Krehl took the heart from a corpse 10 to 16 hours after death, cut from it certain portions which were necessary for his study, since the heart contains varying quantities of interstitial fat from 80 to 120 grains in the muscle. This is done by extracting the water from the muscle, then drying and pulverizing the same, and lastly making an extract with ether by which he found that he was able to divide it into lecithin and fat. Previous experiments had satisfied the author that, contrary to former theories, the high temperature necessary for drying did not destroy lecithin in any appreciable quantities.

The percentage of water contained in a healthy heart amounts to about 79.5 per cent. In pathological conditions it is usually increased more or less; the increase is greater in cases of tuberculosis than in phosphorous poisoning or in pernicious anæmia. The quantity decreases in a direct ratio in cases of carcinoma, sarcoma, valvular disease, chronic nephritis and chronic myocarditis.

The substances of the normal heart, soluble in ether vary between 8.3 per cent. to 13.4 per cent., while lecithin fluctuates between 4.2 per cent. to 4.6 per cent. The causes of these variations in the normal heart are unknown. In disease the amount of lecithin varies greatly; the cause of this is also unknown, but the author feels certain that it is not due to the changes in nutrition nor to the presence of fever.

The proportion of fat varies in different diseases; it is increased in poisoning by phosphorus (to double the normal amount), in isolated cases of pernicious anæmia and tuberculosis. No increase is shown in the chronic cases of myo- or endocarditis.

The cause of fatty degeneration is not to be sought in the decrease of oxygen or in the increase of temperature, nor in the presence of local inflammatory heart disease. The author is inclined to accept the hypothesis that the changes in metabolism which lead to fatty degeneration, are due to the circulation of poisonous materials in the blood which are at present not fully understood. The author has studied and illustrated this subject carefully and presents a number of tables to explain his line of thought to the interested student.

* Abstracted from *Deutches Archiv. fur Klinische Med.* Bd. 51, hft. 4 and 5, and Translated for THE MEDICAL AND SURGICAL REPORTER by Marie B. Werner, M. D.

ABSTRACTS.

THE EARLIEST MEN.

At the recent meeting of the American Association for Advancement of Science, profound interest was awakened by Dr. Daniel G. Brinton's address on "The Earliest Men." How did they come into existence? By special creation. Everything is special. The whole species is made up of special individuals; and their evolution is multiform. Scientific men are agreed that the human race did in some way arise from some inferior animal form—not necessarily monkeys. The transition may not have been gradual, but abrupt—evolution per saltum. We do not find the "missing link;" it is still missing; it may be forever missing. There are different opinions as to how many early men there were. There may have been several distinct centers, but science as well as orthodoxy points toward the conclusion that all men originated from one primal pair living in one definite place. When did these early men appear? A perplexing question. We used to be told that it was 6,000 years ago; but we now know that there were at that time thousands of men living in Europe, Asia, Africa and America. It may be that we have misunderstood the Biblical record, or that it may have concerned a single branch of the race. It is certain, however, that man appeared late in the geological history of the globe. Human remains have been found in half a dozen places in the world under circumstances that seem to show that man lived in the Tertiary age, but the proof really seems meager. Did man appear during the great Ice Age? The testimony from ancient caverns whose mouths had been sealed by drift, and whose contents lay hidden under stalagmitic floors, as well as that gathered from stratified gravels and other sources, proves that man probably did inhabit the globe during or even before the Ice Age. The date of that age is not exactly fixed, but was probably about 50,000 years ago, although some men of science have assigned a less and others a greater period than this.

Where did the earliest men make their home? Manifestly there were certain conditions requisite. Man requires food and generally some kind of clothing. We many reason by exclusion. The first men did not inhabit an island, for they could never have got off. They did not live where it was very cold, because they would have perished. The greater portion of the northern hemisphere was under water at the time of their advent, hence that is ruled out. They could not have lived in Australia nor in Southern Africa on account of climatic conditions and for other reasons. In short, we find them limited by conditions to the area between the Himalayan Mountains and Spain. Practically the oldest remains yet found have been discovered in the most densely inhabited regions of Europe. The sacred record treats of a particular line of human beings. The fable of the lost Atlantis and the theory of Haeckel as to the submerged Lemurien are not tenable. Eurasia was certainly man's original birthplace.

What did the early men look like? Were they altogether rude? Did they creep on all fours or walk erect? The most expert anatomists have decided, after examining the ancient bones that have been exhumed, that there is no more difference between ourselves and those early men than there is between ourselves now. They were doubtless sturdier. They did not trouble themselves as much about dress as we do. They had reddish hair and probably a ruddy complexion, with blue or gray eyes. Their skulls were about as good as ours, except the famous one of Neanderthal, for which we have less respect than we used to have. In a word, they were men, They knew how to make a fire. Even the very oldest of all men knew that wonderful art. They also knew how to make tools from stone, wood and horn. They were conversant with a variety of instruments and tools. They had weapons with which they killed huge animals. They knew about boats. They had dwellings. They were socially inclined and lived in communities. They were brave and had wars. They endured hardships. They had good hearts

and loved one another. We have positive proof that they took care of the aged and nursed the invalids among them. They had some kind of language and knew something of music. We cannot positively say that the very earliest men worshiped, but if they did so, their worship was spiritual. They had do idols. They had some sense of beauty. They decorated shells. They carved the horns of reindeer and tusks of mammoths. Those first men could travel rapidly. They encountered no very dangerous enemies. We can easily see how there came to be varieties among them, for more changes are now going on than ever before. All shades, from black to blond, are easily explained. We may safely conclude that the early men were essentially human and very much like ourselves, with hearts and brains, hopes and fears, woes and aspirations like our own.—*Scientific American.*

MEDICAL EDUCATION IN THE UNITED STATES.*

J. COLLINS WARREN, M. D.†

The rising generation of teachers were not content with the antiquated methods of a previous century; they had learned of a new order of things in the centers of medical learning in Europe. As the old generation of teachers went out and a new one came in, the modern ways of teaching grew into a substantial system which had come to stay. Harvard adopted the graded course of three years' study, but she did also far more than that—and in this respect she stands in advance of almost every other school in the country—she lengthened her course to nine months, so that her two terms correspond with those of the other departments of the university and represent a full year's work.

I will not undertake to record the history of the reform in medical education since that time; it is familiar to most of you. The example which has been set to the rest of the country by the University of Pennsylvania and by the College of Physicians and Surgeons of New York is too well known for me to repeat them here.

While criticising, as I have done, the work of a previous generation, I ought to remind you that our forefathers accomplished what they did only by individual efforts. There were no governments, and as a rule no liberal benefactors to back them in their undertakings. Their schools had to be conducted on business principles, with a keen eye to the practical success of their venture. During the past twenty years, it is true, a number of State universities have been established. In the University of Michigan, and possibly in one or two other State universities, the medical professorships like those of other departments, are sustained by the income from the general endowment, independent of fees derived from medical students; but, as a rule, the success of the school has depended upon the patronage which ithasreceived. It may be justly said, therefore, that the whole system of medical education in this country is the spontaneous outgrowth of the work of the medical profession, and that it is due to their public spirit and disinterestedness that so important a department in the educational development of a great nation has been brought to its present state of excellence.

The good work has, however, but just begun. The reform of medical education is still in its infancy. If we are to believe all the glowing announcements which we read in the annual catalogues of the various schools, we might be lulled into a sense of calm security for the future; but, unfortunately, the actual practice of many, I might say a majority, of the schools does not come up to the ideals which are here set forth.

The essential points in the new scheme of education have been well stated by our President, Dr. Pepper.

1. The establishment of a preparatory examination.

2. The lengthening of the period of study to at least three full years.

*An address delivered before the Section on Pedagogy of the Pan-American Medical Congress.

†Professor of Surgery in Harvard University. President of the Section.

3. The careful grading of courses.

4. The introduction of ample clinical and laboratory instruction.

5. The establishment of fixed salaries for the teachers.

In a general way we may obtain some notion of the improvement which has been made by a study of the report of Illinois State Board of Health for 1891. According to this report there are now 148 medical schools of all kinds in the United States and Canada. The number of those requiring certain educational qualifications for matriculation is 129.

The number of schools requiring attendance on three or more courses of lectures was, in 1882, twenty-two. In 1891 the number was eighty-five.

There has been also a gradual increase in the duration of the lecture terms from an average of 23.5 weeks in 1882-83 to 26.3 weeks in 1890-91. In 1882-83 there were eight colleges that had but sixteen weeks; the number of colleges having terms of six months or more is now 111. The number of colleges which have graduated students at the end of the second course of lectures the present year is less than 10 per cent. of the whole number of schools in the country.

There are now in the United States thirty-two examining and licensing bodies that do not give instruction. Although the work of these licensing boards is far from uniform, a great deal has been accomplished by them. There are at the present time fifteen States with Practice acts that require an examination of all persons desiring to practice medicine in the respective commonwealths. These States include nearly 50 per cent. of the entire population. In many States the whole complexion of the medical practice has been changed by the clarifying influences of these bodies. The reports on medical education by the Illinois board, I do not hesitate to say, have exerted a more powerful influence on the movement in education than any other publication which our medical literature has produced.

The effects of these Medical Practice acts which establish a minimum of time spent at medical lectures and provide an examination for those who wish to become practitioners, are shown in the statistics which have just been given. At the present time State examinations are required in Minnesota, North Dakota, Montana, Washington, North Carolina, Alabama, Florida, Virginia, New Jersey, New York, Nebraska, Maryland and Utah.

Millard, who has had experience in framing the act of Minnesota, believes that it would be an improvement upon the Medical Practice acts at present in existence, to separate the two functions of the board, the licensing power and the educational supervision. He thinks that the best interests of the public will be observed by assigning the duties of the State licensing power to the various State Boards of Health. The regulation of all forms of education should, on the other hand, be vested in a central power consisting of a single board, to be known as a State Bureau of Education, with power to regulate all educational institutions granting degrees, together with the power of granting charters and revoking the same; particularly should this apply to all institutions wishing to afford the community any of the various forms of higher or special education.

Having thus sketched the progress of medical education up to the present time, let us now glance at some features of the present system in which it is desirable that further improvement should be made.

The importance of a preliminary training for the study of medicine is a problem which has occupied the attention of our most prominent teachers. That the medical student should have received a fair amount of education goes without saying. The importance of a proper preliminary education, is thus forcibly stated by that most experienced of German teachers, Professor Billroth. He says in reply to the objection to a preliminary study of the natural sciences as a basis of a medical education:

"The educated of all nations should not fail to encourage to their utmost, knowledge and study—in all countries and stations of life they should not fail to maintain the standard which they have set up, both for themselves and others; they should not fail to support the government in all efforts directed toward this end.

"The physician, the lawyer, the school teacher and the clergyman form the nucleus of culture in the community;

they are, especially in the country or small town, the representatives of the educated element of society. The people seek their advice in time of need, and they are their sole source of knowledge in many things.

"To neglect the education of such persons, to lower their mental and scientific standard, to bring them up so that they know no better education than the tradesman, the tailor and the cobbler, would be, in my opinion, the suppression of the educational development of a nation and is a policy both corruptible and immoral in principle, as it would inevitably ruin a nation and bring it prematurely to that point of decadence where it would become the prey of others."

The importance of these views is fully appreciated in Germany, where the professional schools are integral parts of the university, and entrance to the professional schools depends upon the previous completion of the course in philosophy, a course which corresponds to that of our academic degree.

In Dr. Holmes' suggestive article on this subject it is shown that while the increase in the total number of medical students has been very great during the last decade, the increase in the number of "college men" who have entered the profession has been very slight, and in some of the more prominent schools the percentage has even slightly diminished. The author says: "It can not then be doubted that relatively a smaller number of medical students have a bachelor's degree than in 1880, though the education of the average medical student is superior to the average medical student ten years ago." Although the proportion of medical students to students of law and divinity is greater in the United States, the relative proportion has diminished in the last ten years, whereas in Germany in the same period, a period during which medicine has become more of a science and the domain of surgery has increased under antiseptic methods, the proportion of medical students to the students of other professions has greatly increased. The reason for this variation in the proportion of students in the two countries is explained by the imperfection of our system of education. Educators have not had proper control and medicine has not been placed upon that dignified scientific basis which it enjoys in Germany. Dr. Holmes complains that the medical department is neglected by every university in the United States. "It is farmed out or left to shift for itself."

Harvard has recently made an attempt to overcome the difficulty by a modification of the academic course. As Welch points out in an article on this subject. If a young man choose the medical profession he should devote at least four years to medical studies, including the preliminary sciences. If he supplements this with a year in a hospital and a year or two in study abroad, and all this work has been preceded by a college academic course, he would not be able to enter upon the practice of his profession much before the age of thirty.

Dr. H. P. Bowditch, dean of the Medical Faculty of Harvard, has strongly advocated a change which would overcome this difficulty. The average age of students who enter the Harvard academic department, as President Eliot has shown, has been gradually rising during the whole of this century until it has reached nearly nineteen years. The student who enters the medical school therefore finds himself just beginning the preparation of the real work of his life at an age when many of his contemporaries are already engaged in the productive work of their professions. In Germany the best class of students begin their professional studies at a little earlier age than that at which our young men enter Harvard College. As the course of study leading to the degree of doctor of medicine lasts five years, it follows that the German physician is ready to begin practice before he is 23½ years old.

The average age of matriculants at Oxford is 18 years, and it is perfectly possible for an Oxford student desiring to study medicine to begin his purely professional studies before the end of his second year of college life. The dean writes me upon this subject as follows:

"There are many students in our school who have had one or two years of college life either as special or regular students, and these have entered the medical school because they have felt the necessity of getting started in their life work. These men would have been glad to take the A. B. degree if it could have been procured in a shorter time, but

they consider it too dearly purchased when it involves so much delay in beginning their professional life."

It seemed, therefore, reasonable to the medical faculty of Harvard to make the following proposition, namely, that the academic council should consider the expediency of granting the degree of A. B. to all undergraduates who should subsequently take the longest course of study offered at the professional school after three years' attendance in the academic department—the professional degree and that of A.B. to be given simultaneously at the end of the professional course. One of the medical studies at least can be obtained in the usual college curriculum, and general chemistry is frequently "anticipated" by students who enter the medical school. It is hoped, indeed, that this course will soon become one of the "priliminary studies" to medicine. It would be a short step to place one or two more of the scientific medical studies on the list of academic electives, and a whole year could be thus anticipated. The relations of professional schools to the university are not appreciated in the same light that they are in Germany, and the proposition of the medical faculty after much discussion was finally declined. The advantages of a more intimate relation between the medical school and the university are clearly set forth by Welch in the article referred to. The duplication of laboratories is thus avoided, and men of different branches of sciences are brought more intimately together. The important departments of botany, zoölogy, and comparative anotomy cannot fail to have an elevating influence upon the work done in a medical school. How much more rapidly might not original investigation progress when different branches of science work in a common cause. It is here that the great strength of German science and progress takes its origin.

A movement in the same direction is the establishment in our colleges and scientific schools of courses of tuition, intended specially for the benefit of those who intend ultimately to study medicine. Such a course has been planned by Prof. Shaler in the Scientific School of Harvard, and a similar course is offered by the Institute of Technology.

Professor Shaler's course preparatory to medicine consists of two years. In the first year we find physics, zoölogy, botany, general chemistry, rhetoric and elementary French or German, and freehand drawning among the studies required.

In the second year there if botany, zoölogy, comparative anatomy, geology, comparative osteology, physics, qualitative analysis and themes.

It is certainly to be hoped that the medical teachers of the United States will not remain content with the very elementary examinations which are now demanded for those students who have not received a college education.

The advantage of a previous college training is shown in some statistics given by Billings of examinations conducted by the examining boards of the army and navy. Of those candidates who had a college degree 34 per cent. were successful, and of those who had no such degree 28.9 per cent. succeeded. It is interesting in this connection to note that taking the medical schools of Harvard, Yale, the College of Physicians and Bellevue Hospital of New York, the University of Pennsylvania, and the University of Virginia together, 46.1 per cent. succeeded, while for all the rest of the schools in a body 22.3 per cent. succeeded.

Another subject which is receiving more and more attention yearly is that of clinical instruction. The weakness of this feature of medical education was one of the glaring faults of the old system, and arose out of the fact that hospitals were far less numerous than they are at the present time, and that, from the necessities of the situation, the independent origin of the medical school became a custom which has continued almost unimpaired to the present day.

In Boston the medical school flourished for nearly one-third of a century before its teachers realized the importance of this problem. A circular was then issued in 1810, in which the statement was made that "a hospital was an institution absolutely essential to a medical school." Would that all teachers of that time had realized sufficiently that fact and had educated the public to recognize the necessity of such a close relation of the two. Many of the older members of this congress can remember the old-fashioned prejudice which resented the intrusion of students

into the hospital wards. The theory of the trustee of that time was: This money was given for the cure of patients and not for the education of physicians. They could not be persuaded that the two interests were identical.

The change of feeling in more enlightened times was indicated by the benefactor of the great Johns Hopkins hospital. At the opening of that hospital in 1889 Dr. Billings showed the advantage of such a union in the following words:

"It is well known to those familiar with the subject that the sick in a hospital where medical instruction is given receive more constant, careful and thoughtful attention than do those in a hospital where no such instruction is given. The clinical teacher must do his best; keen eyes will note every error in diagnosis, every failure in results of treatment. Moreover, the very act of teaching clarifies and crystallizes his own knowledge in attempting to explain, the dark places become prominent and demand investigation, and hence it is that those cases which are lectured on receive the best treatment. I need say nothing here on the other side of the question; the value of properly trained physicians to the community and the necessity for hospital instruction in such training. John Hopkins understood all this, and especially directed that 'in all your arrangements in relation to this hospital you will bear constantly in view that it is my wish and purpose that the institution shall ultimately form a part of the medical school of the University.'"

The reaction in favor of clinical teaching is becoming daily stronger and stronger, and no school can hope to complete with the great schools of the country which does not have control of what is usually called "clinical facilities." This term must unfortunately still be used; for the number of schools which have a hospital of their own is yet exceedingly small. The union between the two is in most of our large cities becoming a more and more intimate one.

Another immense advantage which the possession of a hospital gives to a faculty is the control of appointments. Most schools are now obliged to select their teachers from members of the staffs of hospitals in their city who have services at times of the year which enable them to teach. These individuals are appointed by laymen who have no knowledge of or regard for the necessities of medical education. Faculties thus placed are unable to select teachers of national reputation, as there is no appointing power which enables them to give such a person the material with which to teach. This is a grave defect in our system, and one which the leaders in medical education should not forget to impress upon the profession and the public.

But, while applauding the movement in favor of clinical teaching it is perhaps well at the present time to consider whether systematic or, as it is usually inaccurately called, "didactic" teaching should be abandoned. The discussion as carried on in medical journals, appears to lean in this direction. A course of systematic lectures enables the teacher to cover ground which he would be unable to do, even in a clinic most richly endowed with ma erial. The method of handling the subject differs entirely from that adopted at the bedside, and in a well regulated four years' course I believe the systematic lecture should still retain a prominent place. Clinical instruction should be abundant and of the most varied kind. Instruction of the class in small sections is a most desirable feature of this department. It involves a greater expenditure of time, an increase in the teaching staff and great ability as an organizer in the head of the department. It is the squad drill, however, which brings the student in most intimate contact with disease.

To carry out these ideals necessitates a "plant" far in advance of that which the average school now possesses. No such enterprise can be undertaken without that aid which has hitherto been conspicuous by its absence. I refer to endowments; the valuable paper of Dr. Bayard Holmes already referred to gives some interesting data on this subject. He says:

"The productive funds in the hands of medical schools, both those connected with and those independent of universities in the United States was in 1889, $249,200, while at the same time there was in the hands of schools of theology productive funds to the amount of $11,939,631. The value of buildings and grounds used by medical schools at the same time was $4,047,618, and the theological schools

were accommodated with buildings and grounds valued at $7,762,095. The medical schools had in 1889, 12,238 students who paid tuitions to the amount of $763,761, while at the same time the theological schools enrolled 6,989 students.

I am able to reinforce these figures by an abstract of the statistics for medicine, theology and technology as reported to the Bureau in June, 1892. The medical schools possessed buildings and grounds in 1892 valued at $7,507,937, and productive funds amounting to $611,214. Medical departments of State universities also received State aid in 1892 amounting to $40,500, which, if capitalized at 5 per cent., would be equal to an endowment of $810,000; making a total endowment of $1,421,214. There were 16,731 medical students in attendance.

The theological schools report productive funds amounting to $17,599,979, and stated, at the same time, the value of their buildings and grounds was $10,720,860. They had 7,672 students in attendance.

Technological schools report productive funds amounting to $13,229,940. These institutions received from State appropriations or municipal aid in 1891-92, $747,504, which, if capitalized at 5 per cent., would be equivalennt to an endowment of $14,950,080; making a total endowment for schools of technology of $28,180,020. There were enrolled in the schools of technology 10,921 students, about one-third of whom were in preparatory courses. It will thus be seen that the endowment of theology is increasing at the rate of about two million dollars a year. The technological schools are well provided for, but medicine has scarcely raised its endowment, even at the most liberal estimate, to a million and a half."

Probably the available funds possessed by our medical schools are somewhat larger than these statistics show, but they give the proportions which are needed to impress upon us how little financial encouragement medicine receives. When we realize what a valuable factor the medical man is in the rapidly increasing development of the territory of a vast and prosperous country like ours, it seems as if his claims to receive encouragement should be listined to. He does not build railroads or organize society in new lands but he is in the foremost rank of pioneers, with the complete equipment which our teachers can give to-day, and he becomes a most valuable member of society. He protects the young colony from epidemics; without him State medicine could not exist, and States could not be provided in a bases which could ensure prosperity.

These ideas should be impressed upon our men of wealth and upon the State governments as well. In the meantime it is important that we should adopt as a principle in our new departure in education that the medical faculty should have personal control of hospital wards and management. Let this work begin in a small way at first, but with a view to future development. Such a change can only be brought about by a slow process of evolution. The sooner, therefore, the principle is recognized and adopted, the better. It is difficult for a prosperous school which has abundant opportunities for bed-side teaching to realize this, but it can not develop beyond a certain point until it has established its own independence.

Diarrhœa Caused by Infusoria.*

Of the four cases reported by Dr. Roos, of Kiel, of persistent diarrhœa, the first was due to megastoma entericum and trichomonas intestinalis; the second was caused by balantidium coli; the third by cercomanos homanis; the fourth was produced by a moderately large infusoria which has not yet been described, but could be compared to the oxyuris in form.

The fifth case of intestinal catarrh was complicated with retarded action of the intestines; there were found besides the trichomonas intestinalis and megastoma, those described by R. May. After the continued and regular doses of calomel, the infusoria were killed and the intestinal catarrh cured.

The author does not consider the infusoria as a direct cause of the intestinal catarrh, but feels that they are, in a measure, the cause of the long duration of the diarrhœas.

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* Abstracted for THE MEDICAL AND SURGICAL REPORTER by Marie B. Werner.

CURRENT LITERATURE REVIEWED.

THE AMERICAN GYNECOLOGICAL JOURNAL FOR JULY.

Dr. George Erety Shoemaker discusses the

Non-Operative Treatment of Salpingo-ovaritis; Its Results and Limitations.

The author urges that removal of the appendages should not be performed until other treatment, known to be carefully applied, has failed. He is also guided as to the prognosis without operation by the amount of organized adhesions, and to some extent by the amount of prolapse of ovaries. In deciding whether or not adhesions are insurmountable in any case he advises a patient trial of iodine or ichthyol, boroglyceride tampons, elastic wool packing and careful stretching. Palliative treatment has a field, not only in those cases where the anatomical lesions are not considered great enough to call for operation, but also in a few instances of serious type, where the patient or her family absolutely refuse operation, and where the alternative is preferred of prolonged treatment and the risks of pelvic inflammatory attacks. In regard to the prospects of non-operative treatment in non-purulent salpingo-ovaritis, he says that the idea of a permanent and absolute cure must be dismissed, on account of the likelihood of a relapse. Still, patient and carefully conducted treatment in the intervals between the relapses is capable of very greatly improving all local symptoms, if not of removing them for the time being. In the treatment, every attention must be given to general measures, which will extend all the way from a typical "rest cure" and its attendant round of extra feeding, passive electrical exercise, massage and seclusion, down to the tonic for the factory girl and the advice to go out of doors. Locally, the use of elastic wool tampon, each piece best covered with a thin layer of cotton, to prevent irritation, has a large influence in gradually correcting displacements, and, by supporting the vessels and exerting a mild pressure, in lessening congestion and hyperplasia. While the author has never practiced systematically the massage methods of Thure Brandt, he is confident that, with the milder degrees of adhesion, persistent stretching by the bimanual method, to the limit of safety and of easy toleration, will release many a fundus and many a tube that at first seemed fixed permanently. Where much tenderness is found, a useful addition to the wellknown boro-glyceride tampon is ichthyol, which when made into an ointment with four parts of lanoline, may be put on the tampon against a tender region. This substance seems to have a decided influence over subacute inflammation, and has served to lessen tenderness more rapidly than anything else in his hands. Where endometritis, exists, serious effort must be made to cure it. As far as the author's experience goes, the securing of drainage by moderate dilatation of the cervix and a thorough use of the curette, if done systematically under ether, with a careful preparation of the patient and an aseptic field, is not only not followed by an increase of trouble higher up, but is the most hopeful treatment of endometritis which is not itself dependent on tubal disease. Pessaries are of no use until all adhesions have been released and the organs are first normally replaced; that is therefore late in the treatment. The author lays stress on the point that the so-called conservative treatment of tubo-ovarian disease is a misnomer, and is to be condemned in the more decided cases, especially where pus exists. The treatment outlined above is not applicable to pus cases.

Dr. Marcus Rosenwasser contributes a paper on

The Indications for Operative Treatment in Extra-uterine Pregnancy.

The author presents the following conclusions:

First.—To prevent free hemorrhage, remove the unruptured sac whenever a presumptive diagnosis is made.

Second.—Operate early in all cases of *free* hemorrhage.

Third.—In cases of *circumscribed* hemorrhage, operate for definite cause: (a) Recurrent hemorrhage; (b) growth of surviving fetus; (c) suppuration of mass; (d) interference of vital functions by pressure.

Fourth.—Early operation is advisable in advanced ectopic pregnancy, but circumstances and individual experience justify deviation from the rule.

Dr. T. J. Crofford reports

A Fibroid Tumor Complicating Pregnancy.

When the patient was first seen she had been in labor for six days and was too weak, in the opinion of the attendants, for any radical operation. The tumor was so situated that symphysiotomy would not have given relief. It was therefore decided to deliver her by traction, which was finally accomplished after manipulation of the tumor; As the result of manipulation of the tumor, sloughing took place for which the appendages were removed on the seventeenth day after delivery, as, up to this time, the attendant thought the growth to be ovarian. Section revealed its true nature. The patient finally recovered in spite of the fact that the tumor continued to slough and was removed with a portion of the uterus by morcellation.

Dr. Frank W. Talley furnishes a "Report of a Case of Supra-vaginal Hysterectomy by Baer's Method." The patient died of septicæmia from the drainage tube.

The remaining paper is by Dr. J. M. Baldy on "Vaginal Hysterectomy for Prolapse."

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

For October. Dr. W. Gilman Thompson contributes a paper on

A Study of Addison's Disease and of the Adrenals.

As the result of his observations and of experiments on animals, he comes to the following conclusions:

First. That Addison's disease is a condition arising from and dependent upon irritation of the abdominal sympathetic nerves through lesions of themselves, their ganglia, or diseased supra-renal capsules.

Second. In the great majority of instances (fully 80 per cent.) the disease originates as a secondary or primary tuberculosis in the adrenals, and the sympathetic system is either involved by extension of pathological processes, or is functionally disturbed and irritated through the intimate anatomical connection existing between the adrenals and the relatively large number of nerves which they contain.

Third. Actual lesion of the sympathetic system, while far more common than heretofore supposed, is not necessary to produce the varied symptomatic phenomena of the disease. Functional disorder, through irritation conveyed from the adrenals, may sometimes cause all the symptoms—just as in chorea and in many of the conditions of aggravated hysteria, and other functional nervous disorders, we are often unable to find definite lesions.

Fourth. In a certain proportion of cases (not over 20 per cent.) the adrenals are affected by some other lesion than those of tuberculosis, or else they remain normal (in 12 per cent.) and the sympathetic nerves and ganglia are alone diseased.

Dr. Harold C. Ernst contributes a paper on

The Bacillus Pyocyaneus Pericarditidis.

The author presents the following differences between this organism and those with which it has been possible to compare it:

I. *Macroscopic.* 1. The bluish-green tinge of the gelatin in plate culture, as seen by reflected light, as distinguished from the yellowish-green tinge of the others.

2. The dryness and metallic lustre of fresh colonies and the bluish-green color, by reflected light, of old cultures upon agar agar, as distinguished from the moist elevated fresh colonies, and nut-brown color, by reflected light, of old colonies of the others.

3. The greenish color of the colonies in peptone solutions of varying strength as distinguished from the bluish color of the other bacteria tested with it.

4. The very much greater rapidity and intensity of the reaction of gelatin and bouillon cultures to acids (red color) and alkalies (grass-green).

II. *Microscopic.* The variations in its appearance under the microscope.

1. From gelatin, indistinguishable.

2. From peptone, long, slender rods, as contrasted with short oval ones.

3. On other nutrient media, its general average as a larger rod, which can be made out by comparative examination, but is hardly subject to measurement. It can be seen, however, in preparations from egg-albumin, bouillon, blood-serum, and potato. Only upon gelatin and agar there is no appreciable difference.

It appears, therefore, justifiable to conclude that we are dealing with a distinct variety of the bacillus pyocyaneus, and that Gessard's conclusions that there is but one is unfounded.

The paper is illustrated with a colored print of a cover-glass preparation of pericardial fluid showing the bacillus in comparison with the bacillus of tuberculosis.

Dr. V. P. Gibney discusses the

Final Results in Tubercular Ostitis of the Knee in Children, Commonly Known as "White Swelling."

The author cautions against the danger of overlooking the disease in its onset and diagnosing the case as one of sprain or rheumatism. The mistake is due in most instances to carelessness in the examination. The joint functions should invariably be tested and compared with those of the other side, both limbs being devoid of clothing. In regard to treatment, he advocates what he terms the protective method, meaning thereby immobilization of the joint until all acute signs have subsided and convalescence can be safely predicted; the use of an apparatus that prevents concussion or jar—in fact trauma of any kind—whether in the shape of a peroneal crutch or axillary crutches. He does not class under protection splints the ordinary extention apparatus, because the adhesive plasters with which traction is secured slip, and the skin and deeper tissues themselves move, so that jar or trauma is not prevented. The apparatus he prefers consists of a posterior splint, with a high shoe on the sound foot.

The paper contains exhaustive statistics as to the results obtained by various methods of treatment.

Pneumonia of Delayed Resolution and Fibroid Phthisis in Childhood

Is the title of an interesting paper contributed by Dr. George Carpenter of London, Eng. The author states that in his experience, cases of retarded resolution in association with pneumonia have been found, with a solitary exception of basic pneumonia, in those showing an apical, or the upper and part of the lower lobe distribution. In opposition to Wilson Fox, the author insists that bronchial dilatation *per se*, is no more capable of inducing lung fibrosis than inflammatory lung mischief without bronchial attachment is competent to cause dilated tubes. Bronchial dilatation and peri-bronchitis are frequently met with in bronchitis or broncho-pneumonia, but only as part of the disease—of the same morbid inflammatory action.

Cirrhosis of the lungs is not so very uncommon in childhood, and in the diagnosis the position of the heart is of importance. In left-sided lesions the organ may be uncovered, exposing a large portion, or the whole of its surface, with consequent diffusion of the impulse; or contracting adhesions with the lung, the heart may be displaced. The condition has to be separated from chronic

pleurisy with effusion, for, as regards auscultatory signs, there may be but little to choose between them; the position of the cardiac impulse, and the positive or negative results obtained from one or more exploratory punctures, should determine as to its nature. Puncture in cirrhotic cases is not, however, without danger. The disease has also to be separated from an invasion of new growth in the lung. Attention directed to the mediastium, which is almost always attacked, should prevent any difficulty in this direction.

The pneumonia of delayed resolution is, *per se*, not dangerous; it becomes so if resolution does not come to its assistance. In such cases, as far as the experience of the author goes, the rubbing in of some mercurial ointment, such as Scott's ointment, has appeared to him to be of value. In addition the general health must be improved in every way by tonics; iodide of potassium internally, good feeding and change of air. The author does not confine patients to bed under such circumstances. Full expansion of the lungs should be invited by gentle exercise, short of fatigue and of exposure to the east winds and to wet and damp.

With a fibroid lung, all remedies must of necessity be palliative rather than curative. Tonics, suitable clothing, and good food, must be chiefly relied upon. With fair general health there is much less liability to bronchitic attacks. Acute attacks must be dealt with on the usual lines. With bronchorrhœa, inhalations of carbolic acid, creasote, iodine, and turpentine may be used with advantage, and the latter may be administered internally. Excessive coughing must be relieved by opiates and chloral, and indications of cardiac failure combatted by the usual remedies.

A paper on

The Course and Treatment of Certain Uræmic Symptoms.

is contributed by Dr. Beverley Robinson. Many attacks of indisposition, due to the excesses of the table, and which are put down in the broad category of bilious attacks, he regards as in reality cases of renal insufficiency. In many instances of obstinate nasal, naso-pharyngeal, laryngeal, and tracheal inflammation, chronic in type, he is firmly convinced that an inactive functional condition of the kidneys is the primary cause of these inflammations. In the evidently gouty cases, and particularly in those where the heart action is good and the tension in the arteries not excessive, colchicine is a more valuable remedy than nitro-glycerine. In instances on the contrary, in which the arterial tension is well marked or excessive and the heart laboring, whilst the quantity of urine is small and low in specific gravity, he believes that it is wise to begin the treatment with nitro-glycerin or the nitrites. In any very alarming expression of this condition, inhalations of nitrite of amyl should first be employed. The author is much opposed to the use of opiates, and especially of morphine hypodermically, in cases of chronic Bright's disease, except in very minute doses. He believes it is capable of doing much harm by locking up the secretions. In those cases however where the heart is the weak organ primarily, and where the kidneys will be greatly helped by cardiac stimulation of an active kind, he is not opposed to the use of morphia in small or moderate doses.

The other papers in this month's issue are: "Further Notes Respecting the Therapeutic Use of the Sheep's Thyroid," by Dr. James J. Putnam; "A case of Panophthalmitis, caused by the Bacillus Coli Communis," by Dr. Robert L. Randolph; and "A case of so-called Pseudomyxoma Peritonei with observations on the Formation of Hyalin," by Dr. Henry W. Bettmann.

PERISCOPE.

THERAPEUTICS.

Local Disinfection.

Chamberland and Tembach (*Am. de l'Inst. Pasteur*, June, 1893) have published the results of an important and extensive research on the above question. Their conclusions are as follows: 1. The Javel water of commerce (a 1 to 10 solution of chloride of lime) and commercial oxygenated water are ten times more active than a 1 to 1,000 solution of sublimate. These disinfectants either do not act, or they act very slowly, on moist microbes at the ordinary temperature, but at temperatures of 50 degrees and over, such microbes are destroyed in a few minutes. It must be borne in mind that whatever be the antiseptic used it is advantageous to allow it to act at the highest temperature possible in order to secure its full activity. 2. Dried microbes are much more resistant. While moist microbes are destroyed in a minute or so, when dried they resist disinfectants for many hours even at high temperatures. Moisture is therefore an important adjunct to disinfection. The authors have found that if dried germs be left in contact with water, and especially tepid water, for an hour, they are destroyed as rapidly as if they had not undergone desiccation. In the disinfection of walls, etc., they therefore advise a preliminary spraying of the objects with water before the use of the disinfectant proper. Another fact brought out by the authors is that a saturated solution of chloride of lime is much less active than one diluted with 10 to 20 times its volume of water. The disinfection experiments were carried out with the spores of anthrax and of aspergillus, with beer yeast and the bacillus typhosus. Other experiments made with

thymol, essence of turpentine, and lysol gave results in no way so satisfactory as those with Javel water or oxygenated water (H_2O_2). The former is most satisfactory in that it is cheap, non-poisonous, and obtainable with the greatest ease.

Injections of Iodoform in Goitre.

Kapper (*Gaz. de Hop.*, September 2nd, 1893) uses a solution containing 1 part of iodoform and 7 parts each of ether and olive oil, which is injected into the goitre after previous disinfection of the skin. The trocar of the syringe is disinfected, and is then plunged to the depth of 2 to 3 centimetres into the tumor, and the patient is told to swallow in order to ascertain whether the cannula takes part in the movements of deglutition, or whether it has not been inserted deeply enough. Immediately the solution is injected the trocar is rapidly withdrawn and the orifice of the puncture closed by means of a piece of diachylon plaster. When the goitre is very large, he injects as much as 6 grammes of the solution at one sitting, in four different parts. The injections were repeated at intervals of four to six days, sometimes on several consecutive days. Local reaction was always feeble. Eight men and six women have undergone the treatment. After ten injections in the course of two months the circumference of the neck was diminished by 6 centimetres at least, and after another interval of two months there was a dimunition of 8 or 10 centimetres. Besides this the discomforts felt by the patients were sensibly attenuated. Six months after cessation of the treatment the improvement was maintained.

MEDICINE.

The Pathogenesis of Hepatic Abscess.

Zancarol (*Revue de Chirurgie*, August, 1893) states that he has proved by experiments on animals that dysentery and hepatic abscess are affections of the same nature, and that the pathogenetic factor of this complex organism is a micro-organism. A clinical experience of twenty-five years has convinced this author that the pus of a hepatic abscess is not less deleterious than that of other suppurating organs, and, also, that dysenteric and hepatic abscess are closely associated, so that, though one may not be the cause of the other, both affections are produced by the same toxic agent. In order to establish these conclusions on a scientific basis, Zancarol instituted a series of experiments on cats, the results of which show that both dysentery and abscess of the liver can be transmitted from man to these animals by injections of the pus and intestinal excretions, and that histologically the lesions in the human subject and those artificially produced in the animal are of a like nature. Hepatic abscess, it is asserted, has microscopic origin, the principal factor being the streptococcus. It remains to be settled by future inquiry whether other organisms apart from the streptococcus are capable of producing a similar morbid condition, or whether this organism is the spcial originating agent of the hepatic affection. Dysentery is regarded as an affection of the same nature as hepatic abscess, its pathogenetic agent being the streptococcus. As to the amœbæ which are so often met with in the fæcal discharges even of healthy individuals, these organisms, the author holds, play no part in the causation of dysentery and hepatic abscess. The streptococcus in most instances passes from the intestine to the liver either by the portal vein or the general circulation.—*Br. Med. Jour.*

* Calomel in Gout.

About fourteen years ago, Dr. F. Grimm (*Deutsche Medicinische Wochenschrift*, Nos. 15, 18, 1893), administered calomel to a patient who was suffering from a protracted attack of gout. The next day he remarked a material improvement and a retrogression of the symptoms. In the meantime he has tried the remedy, in about twenty cases of gout. In some cases the result was astonishing, for it acted like a specific while, in others, the immediate relief was followed by a slower recovery. He ascribes its action to the active peristalsis which results, for, in robust subjects an attack of gout is usually preceeded by sluggishness of the bowels. In such cases is the result the most favorable. The remedy must be so given that active peristalsis will result from the very first dose. One catharsis is generally sufficient to inaugurate the improvement and to continue it. Long treatment is not indicated. After the calomel a carminative may be prescribed. Besides calomel he has also used the yellow iodide of mercury which appears to act more energetically. His observations are confined to acute and subacute, articular gout and its immediate sequellæ. Relapses are not more frequent than after other methods of treatment.

* Ichthyol in Prostatitis.

Dr. Freudenberg (*Wiener medizinische Presse*, No. 30, 1893) has employed suppositories of ichthyol in the treatment of prostatitis, in 30–40 cases, mostly of the chronic form. In all cases he observed, in a short time, an improvement, and in the majority, a complete cure of the subjective disturbances as pain on defecation, sensation of pressure, on urination, as well as the objective symptoms, swelling or hardness of the gland. At the same time the condition of the patient's mind would improve and his general condition ameliorate. A parallel experience with suppositories of the iodide of potash demonstrated the superiority of the ichthyol. In the cases where necessary local treatment was applied to the urethra, it is of the greatest importance that the ichthyol be properly administered and that it be well distributed throughout the suppository or it

*Translated for THE MEDICAL AND SURGICAL REPORTER by Frank H. Pritchard, M. D.

will not act well. If used in the prepared hollow suppositories where the requisite quantity is poured into suppository, shortly after introduction, it will melt, the undiluted ichthyol be poured out onto the mucous membrane, and exert an irritant influence on the mucous membrane with pain and stool. He prescribes:

℞ Sulpho-ichthyolate of Ammonium, dgms. 3 6-75. (grs. xlv, ʒss-ʒi¾).
Cacao Butter, ...gms. 2-2.5 (grs. xxx-xxxvij.)

Mix carefully No hollow ready made suppositories. One may begin with three decigrams, (5 grs.) for a suppository and increase to double that quantity. It is rarely necessary to exceed this dose. Two suppositories, per diem, are to be used, one in the morning, after stool, and the second, in the evening, before going to bed. A third is only to be introduced if a motion occur during the course of the day, otherwise it is not necessary as it was observed that the entire suppository was not absorbed for eleven to twelve hours.

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* Gastric and other Nervous Symptoms of Neurasthenics.

Drs. Rummo and Braccini (*Semaine Medicale* No. 54, 1893), recommend the following pill, in the gastric and other nervous symptoms of neurasthenics:

℞ Phosphide of Zinc,... ....cgms. 10 (grs. jss).
Bromide of zinc,.....gm. 1. (grs. xv.)
Bromohydrate of Quinine, gms. 1.50 (grs xxijss.)
Extract of Nux Vomica,...gms. 15 c. (grs. ij.)

M. Thirty pills.
Three pills per diem.

Chloroform as a Tape Worm Remedy.

Dr. Stephen, (*La Semaine Medicale*, No. 54 1893) speaks highly of the value of chloroform in the treatment of tape-worm. With it he has succeeded in expelling worms where the usual tænicides failed him. He used the following, Thompson's formula:

Pure Chloroform, 4 gms..... (ʒj).
Simple Syrup. 30 gms..... (ʒj).

To be taken in four doses, at seven, nine and eleven o'clock, in the morning, and, at one, in the afternoon. At noon the patient is to take an ounce of castor oil. It is well borne even in children.

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* Sulphur in Chlorosis.

Prof. H. Schulz (*Deutsche Medicinische Wochenschrift*, No. 36, 1893) calls attention to the immense importance of sulphur in the human economy and recommends it in the treatment of chlorosis. In cases of pure chlorosis where iron is inactive the general condition is greatly improved by the administration of sulphur, and, after sulphur has been taken for some time, administration of iron could then be commenced. In cases of chlorosis with catarrhal inflammatory states of the digestive tract it is not well tolerated.

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* To Prevent the Syncope of Chloroform.

Dr. Casasovici (*La Semaine Medicale*, No. 54, 1893) a Roumanian military surgeon prevents chloroformic syncope by cocainization of the nasal mucous membrane in those about to be chloroformized. This prevents reflex inhibition of the heart and respiration from irritation of the nasal mucous membrane from the vapor of the chloroform. In one patient who presented symptoms of grave collapse during amputation of a foot, after cocainization of the nasal mucous membrane, the other foot was removed, without accident.

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* Iron Subcutaneously in Chlorosis.

Prof. Rummo (*Muenchener Medicinishe Wochenschrift*, No. 36, 1893) has experimented with various preparations of iron, etc., subcutaneously, in chlorosis, and finds the citrate of iron and ammonia to give the best results. The number of blood corpuscles and the amount of hemoglobine rapidly increased. The first symptoms of improvement were noticed after four to five injections, especially were the gastric symptoms and headache the first to disappear. The injections were made under all antiseptic precautions in the interscapular region and never caused either swelling, redness, nor was albuminuria ever observed. The improvement was lasting. In five days the spleen was enlarged.

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* Auscultation in Fractures.

Dr. Vayana (*Medicinishe Neuigkeiten*, No 35, 1893) communicates a new method of recognizing a fracture. In such cases where the usual pathognomic signs of fracture are obscure one may apply a stethoscope to the place of fracture and have the bone at the same time percussed. A rough sound is heard which suddenly becomes weaker the moment that the point of fracture is passed. This simple sign is due to transmission of sound.

Antiseptic Treatment of Ozena.

The following treatment of ozena is recommended in the *Deutsche medicinische Wochenschrift*, No. 36, 1893): douche the nasal cavity, first, with a solution of carbolic acid. Then insufflate the following powder.

℞ Salol, 10 gms..... (ʒijss).
Boric Acid, 5 gms..... (ʒj¼).
Salicylic Acid, 1 gm ..... (grs. xv).
Powdered Talc. 20 gms..... ʒv).

Or the following powdered:

℞ Muriate of Cocaine, 1 dgm..... (grs, jss).
Menthol, 3 dgms ..... (grs.v).
Boric Acid, 2 gms ..... (grs. xxx
Finely powdered Coffee. 1 gm ..... (xv).

A pinch several times a day.

New Reagent for Albumen in the Urine.

Dr. E. Spiegler has improved his formula for the testing for albumen in the urine. It consists of the following.

℞ Sublimate, 8 gms..... (ʒij).
Tartaric Acid, 4 gms..... (ʒj).
Distilled Water. 200 gms..... (ʒvjss).
Pure Glycerine. 20 gms..... (ʒv).

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This preparation keeps easily and will respond to albumen in a solution of 1:350000. A few drops of concentrated acetic acid are added to the urine and the precipitate of mucine filtrated out, if necessary. Pour the reagent into a test-tube and let the urine run down the side of the obliquely held tube. A milk white ring will form at the point of contact. Peptones are not precipitated. If the urine contain iodine it will not respond for a cheesy yellow precipitate of the iodide of mercury is formed which may mask the albumen. It can not be confounded with albumen for it is different in color, and it is soluble in alcohol while albumen is not. As iodine is rapidly excreted it may be easily used by discontinuing the iodine, for a short time, when this very delicate test may be employed.

*Injections of Glycerine to Induce Premature Labor.

Dr. Edgar (*Wiener Medizinische Presse*, No. 37, 1893) has employed intra-uterine injections of glycerine in two cases to induce premature labor. He injected fifteen grams, siv, between the membranes and the uterine wall. In one case contractions came on after two and a-half hours and in the other in thirty minutes. Of course antisepsis of the vagina is to precede, and it is better to bring the cervix down in order to be certain as to the introduction of the catheter. In the second case a Baine's dilator was placed into the cervix.

Ergotine and Gallic Acid in Hemopytysis.

Dr. Blaschko (*Deutsche Medicinische Wochenschrift*, No. 37, 1893) in cases of hemopytysis where injections of ergotine were of no service has often succeeded with the internal administration of gallic acid, in stopping the hemorrhage. Therefore, in recent years he has combined it with ergotine in copious pulmonary hemorrhages and with the best of results. He employed the following formula:

℞ Gallic Acid..... 1 gm. (grs. xv).
Ergotine ..... 1 gm. (grs. xv).
Distilled Water
Syrup of Orange Peel..... aa, 25 gms. (zvj).
A teaspoonful every two hours.

Where there was a great deal of irritation and inclination to cough he employed the syrup of opium instead of the orange peel syrup and in threatening cases he prescribed a teaspoonful every hour. As this remedy is entirely reliable he was able to dispense with the use of the ice-bag to the chest and injections of ergotine subcutaneously, which latter often lead to suppuration. Small pieces of ice were swallowed and cold milk ordered to be drunk with the greatest possible rest of body and especially of the organs of speech.

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SURGERY.

The Value of the Hands and of the Fingers.

Surgeons have often to estimate the chances of saving injured hands, and the comparative values of hands and fingers. According to a scale of value furnished by the Miners' Unions and Miners' Accident Insurance Companies of Germany, the loss of both hands is valued at 100 per cent., or the whole ability to earn a living. Losing the right hand depreciates the value of an individual as a worker 70 or 80 per cent., while the loss of the left hand represents from 60 to 70 per cent. of the earnings of both hands. The thumb is reckoned to be worth from 20 to 30 per cent. of the earnings. The first finger of the right hand is valued at from 14 to 18 per cent., that of the left hand at from 8 to 13.5 per cent. The middle finger is worth from 10 to 16 per cent. The third finger stands least of all in value; although like other useless members of the community, it is surrounded by riches, its value is only from 7 to 9 per cent. The little finger is worth from 9 to 12 per cent. The difference in the percentages is occasioned by the difference in the trade, the first finger being, for instance, more valuable to a writer than to a digger.—*Med. News.*

Separation of the Lower Femoral Epiphysis.

Mayo Robson, after referring to the scant attention paid to this subject in the textbooks, gives cases to illustrate this condition. Extreme direct violence is usually the cause. The displacement depends on the direction of the violence, but also on the attachment or otherwise of the gastrocnemius tendon to the lower end of the upper fragment. The shortening, the projection of the lower end of the diaphysis in the popliteal space, the displacement of the epiphysis on the front of the femur, and the interference with the circulation, together with the cause of the injury and the age of the patient, form a group of symptoms pathognomonic of this fracture. Robson advises first reduction under an anæsthetic, which might be facilitated by division of the tendo Achillis: after reduction either the long splint with weight and pully or the double inclined plain might be employed. Should reduction be impossible, then excision might be practiced; but if the large vessels be ruptured or gangrene occur, amputation is the only resource.—*An. Surg.*

OBSTETRICS.

Intraperitoneal Ectopic Gestation.

Houzel (*Progres Medical*) relates a case where the pregnancy was, in his opinion, clearly peritoneal. For the last three months of its life the fœtus lived free amongst the intestines, without any investing capsule, anatomical or adventitious. It could even kick the liver, and caused great distress to the mother by disturbing the intestines. The pressure of the fœtal head set

up severe pain in the left iliac fossa. The child passed meconium over the intestines. The placenta was firmly grafted on to the bowel. Nevertheless, in spite of the free fœtus and adherent placenta, the peritoneum was not inflamed. The child died at the end of the ninth month. The placental vessels were extremely large and continuous with others belonging to the intestine over the area where the placenta adhered. Houzel could not remove it, as immediate hemorrhage would have been unavoidable, and intestine does not contract like the uterus. As there was no sac, plugging was not attempted. He also feared to close the abdominal wound entirely, lest the peritoneum might prove less tolerant than before the operation. He preferred to leave the lower end of the wound open, to drain and to detach the placenta when it became evident that there was no fear of hemorrhage. The mother recoved.

GYNECOLOGY.

Testes in a Subject otherwise Female.

Kochenburger (*Keitschr. f. Geburtsh. u. Gynak.*, vol. xxvi, part 1, 1893, p. 73) publishes a case not absolutely unique out of high interest. The patient was 23 and had never menstruated. When 25 she observed slight "show" for a day, She had been married ten years, coitus was somewhat difficult, and she felt no desire. There was no vicarious menstruation. She was large in frame, but quite feminine in form; the breasts and mons veneris well-developed. The vagina formed a blind sac, 2 inches deep. The uterus was apparently represented by an elastic body of the size of a broad bean, lying rather to the right. An ovary-like body occupied each labium majus. The pair were intensely tender to the touch, and caused great pain. They were, therefore, removed. A vertical incision was made in each labium. The right gland was easily detached, the left lay higher up, and was difficult to dissect away from its connections. The two excised organs were carefully examined under the microscope, and the appearances, as represented in lithographs, are published with Kochenburger's paper. They contained tubuli seminiferi and not Graafian follicles, and were distinctly testicles. There were vessels arranged like the spermatic and distinct cremasters but no vasa deferentia. Possibly, Kochenburger suggests, they existed, but were cut too close for recognition, at the operation. He refers to similar cases related by Hicco, Breisky, and others. The monstrosity is classed as hermaphroditismus transversus virilis.—*Br. Med. Jour.*

Knots in the Umbilical Cord.

Lefour of Bordeaux (*Progres Medical*, July 8th, 1893) has made researches in this subject. A knot in the cord is very likely to kill the fœtus by offering a simple mechanical obstacle to the circulation; the umbilical vessels become plugged owing to changes in their coats. In one case, where the fœtal movements and heart sounds ceased twelve days before delivery, there was a tight knot in the middle of the cord. Arteritis and complete obstruction by organized clots were detected on examining the vessels at the affected point. Lefour experimented by injecting water at constant pressure into the umbilical vessels, and found that the knot does not markedly impede circulation unless there be compression as well. An amount of pressure which would hardly be dangerous in a cord free from knots is perilous when a knot exists. In the absence of compression a knot, even if tight, probably loosens itself under the increased pressure of the contractions of the fœtal heart.

Absence of Genitals; Vicarious Epistaxis.

Kochenburger (*Zeitschr. f. Geburtsch. u. Gynak.*, vol. xxvi, pt. 1, 1893, p. 72) examined last year a patient aged 16. She had never menstruated, but for three years had been subject to severe epistaxis every fourth week. She had been married a week, and coitus was found impossible. The patient was in general development, distinctly feminine, there was a little hair along the linea alba. The mammæ and mons veneris were well developed. There was a slight fold in the vestibule, which was very shallow; there was no fossa between the labia minora. The patient was put under chloroform, and no vagina could be detected. In its place lay a cord-like structure which ran upwards for an inch and a half, ending in a fold which ran transversely and clearly represented Muller's ducts; no trace of ovary could be found. Kussmaul stated over twenty years ago that evidence derived from examination of a living subject only is of no great value in these cases. Kochenburger insists, however, that since Kussmaul's days bimanual palpatation has been carried to such perfection that definite evidence can be obtained from the live subject. He feels sure that the ovaries were absent in his case, yet vicarious menstruation, in the form of epistaxis, occurred regularly. This contradicts Kussmaul's theory that menstruation, and even the molimen, is always absent when the vagina and uterus are undeveloped, though the ovaries may be present and contain follicles.—*Br. Med. Jour.*

ARMY AND NAVY.

U. S. ARMY, FROM OCTOBER, 1, 2893, TO OCTOBER, 7, 1893.

By direction of the Secretary of War, leave of absence for three months, is granted Captain William D. Crosby, Assistant Surgeon.

Majors Alfred A. Woodhull and Alfred C. Girard, Surgeons, are detailed as delegates to represent the Medical Department of the Army at the annual meeting of the American Public Health Association to be held at Chicago, Illinois, from the 9th to the 14th of October, 1893.

Norman Seaton, Asst. Surgeon. To proceed to New York, N. Y., for temporary duty, August 18, 1893. To proceed to Jersey City, N. J. for temporary duty, September 3, 1893. To rejoin station September 9, 1893.

Sprague, E. K., Asst. Surg. To proceed to Cairo, Ill. for temporary duty, Aug. 26, 1893.